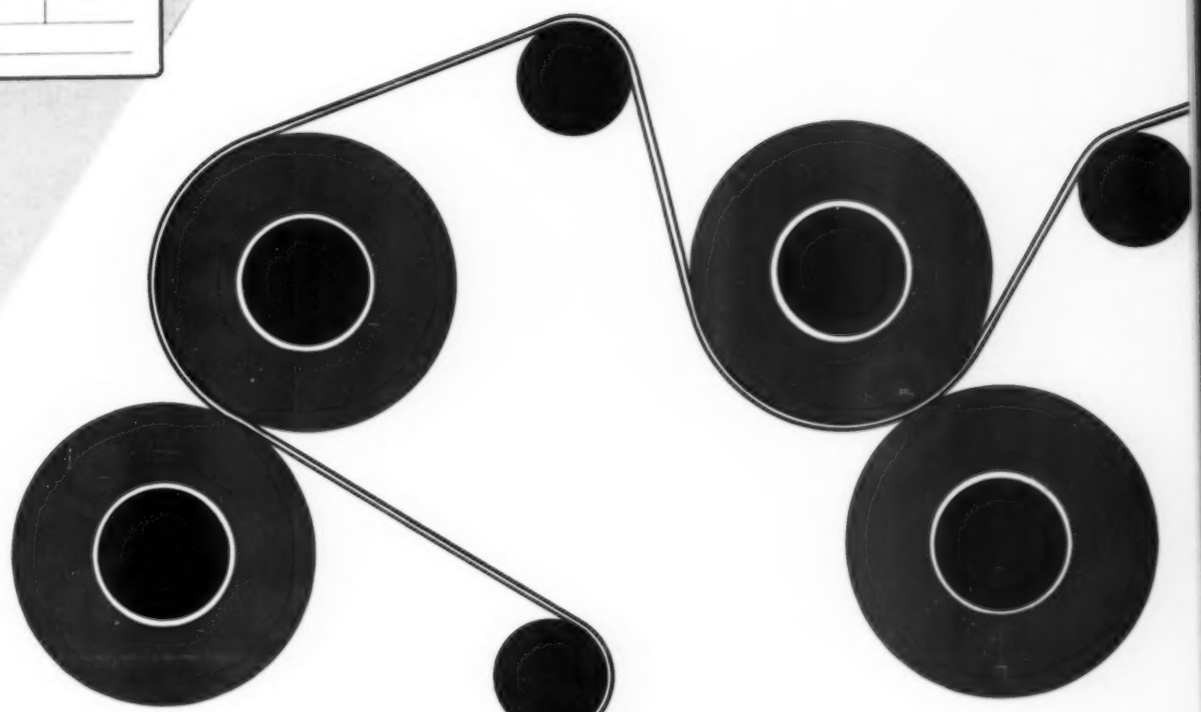
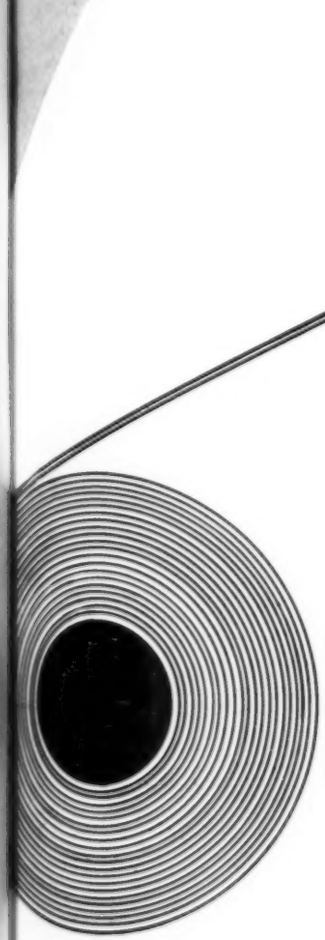
Please Check and Pass On

Don't Delay	See Page
Mr.	
Mr.	
Mr.	
Mr.	
Mr.	
Mr.	
Mr.	
Mr.	

For filing, return to _____

April 1956

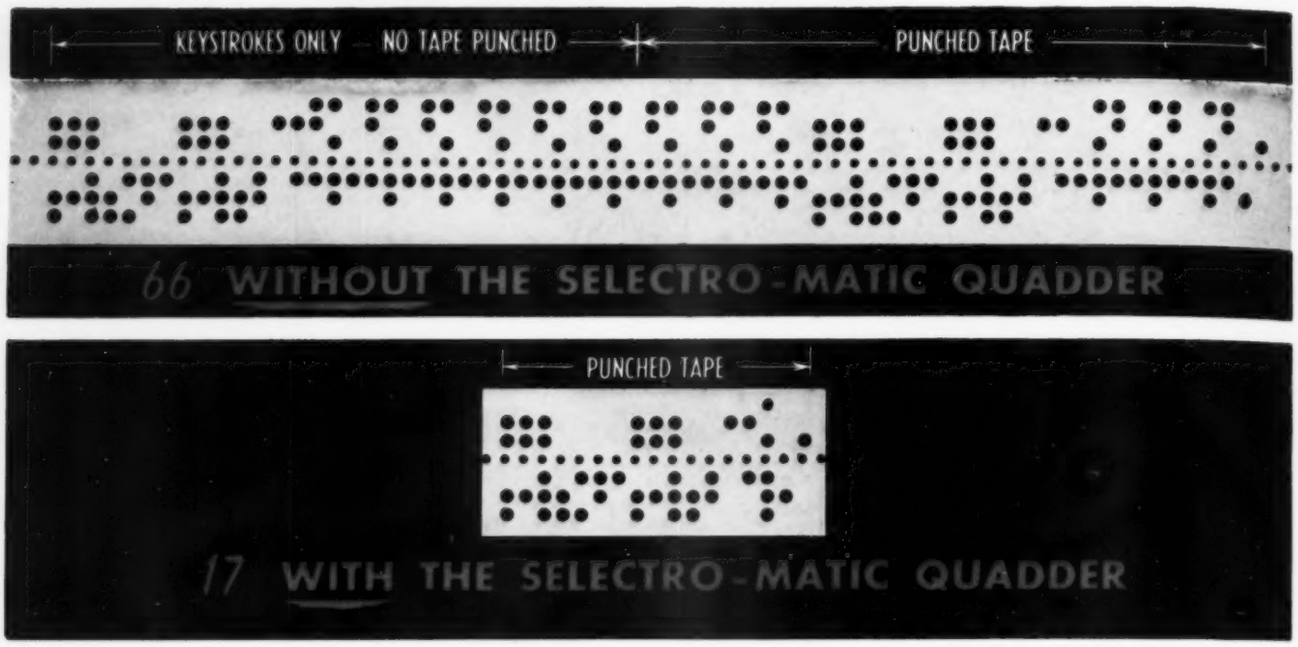




PRINTING EQUIPMENT *Engineer*

an industry-wide technical publication

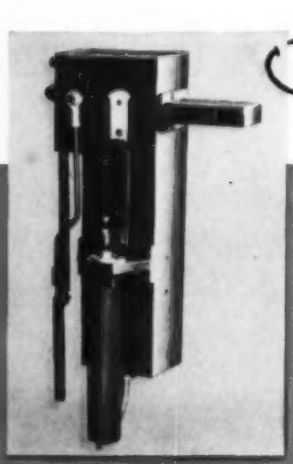
How many keys does your TTS Perforator Operator touch to center a line?


KEYSTROKES ONLY — NO TAPE PUNCHED
PUNCHED TAPE
66 WITHOUT THE SELECTRO-MATIC QUADDER
PUNCHED TAPE
17 WITH THE SELECTRO-MATIC QUADDER

Both tapes contain the signals needed to center the words "John Jones" in 8 point on 12 picas. The big difference between the two is that the Selectro-Matic Quadder is on the job for the 17-signal tape.

Less than 25% of the time and effort needed for the conventional method is required for the tape intended for the Selectro-Matic Quadder.

This means that the Perforator Operator's time is entirely productive. There are no "dry runs" and computation necessary, nor are quads needed at both ends of the line. The operator merely punches the "center" signal at the end of the line, and the Selectro-Matic Quadder takes over . . . automatically . . . when the line reaches casting position.



For faster, easier production of Teletypesetter tape, install the Selectro-Matic Quadder on your TTS-operated linecasting machines. The "tie-in" will more than double tape production for all types of quadder composition. Write today for all details.

BRANCH:
1327 BROADWAY, KANSAS CITY, MO.

AGENCIES:
CHICAGO • MINNEAPOLIS
LOS ANGELES • DENVER • BOSTON
CANADA: SEARS LTD. AND AGENTS OVERSEAS

STAR PARTS, Inc.

Precision TRADE ★ MARK Parts

SOUTH HACKENSACK, N. J.

COLOR REGISTER

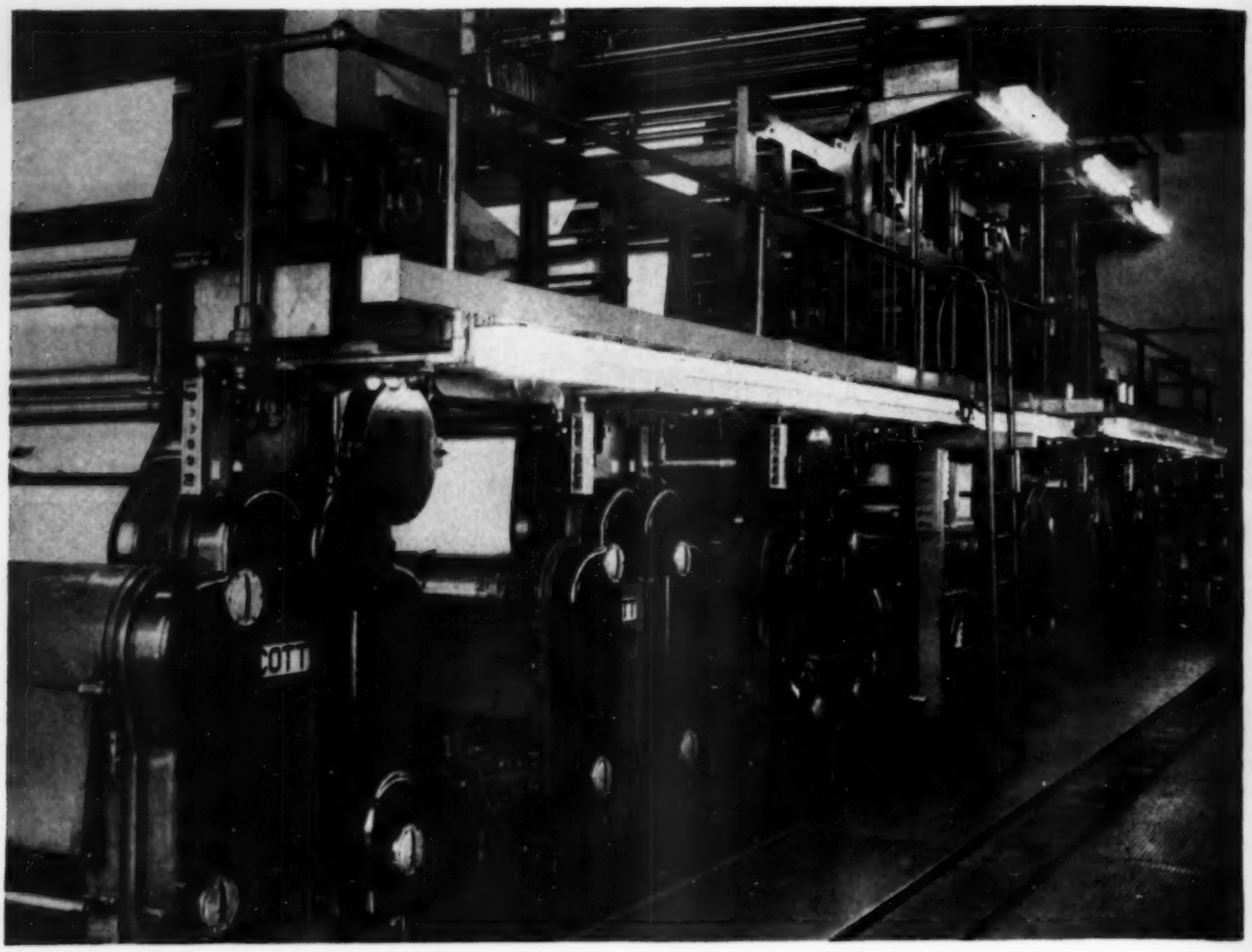
of newspaper printing can involve tedious, trial and error, time and money consuming procedures in stereotype and press rooms.

Or—it can be achieved with a minimum of effort, with scientific accuracy, through use of Sta-Hi's precision stereotype mat color registering equipment.

The Sta-Hi Master Matcher, shown above, used in conjunction with the Sta-Hi Master Trimmer, makes possible close register of color printing areas in the mats that can be maintained in press plates during the casting operation.

Make sense? . . . Some of the nation's leading color printing newspapers think so!

Sta-Hi Corporation
WHITTIER • CALIFORNIA



SCOTT Superior Performance *PLUS* Utmost Flexibility

THIS Extra-High Speed Press by SCOTT recently installed at the WINNIPEG FREE PRESS, in Canada, is a prime example of the efficiency and flexibility of SCOTT equipment.

The installation consists of six straight line units with 3-color plate cylinders and 2-color couples with double ending arrangement. There are four single reverse drives.

It also has one pair of upper formers, equipped to run a tabloid section over these upper formers. This press was also equipped with four extra built-in color fountains and a SCOTT 3 to 2 double folder.

In addition to printing the Winnipeg Free Press daily, this press also produces a weekly tabloid, simultaneously with the printing of a full 4-color comic tabloid section.

The world-famous performance of SCOTT newspaper equipment originates at the design boards, and continues through every stage of manufacture.

5-56-1

Buy with CONFIDENCE . . . Buy SCOTT

WALTER SCOTT & CO., INC.
PLAINFIELD, NEW JERSEY

25% RAG CONTENT

There's the smile of approval you get when you deliver a letterhead printed on brighter, whiter Weston Bond. And there's the smile of satisfaction you get from the girls who work with it in your customer's office.

But the greatest pleasure comes when the next order arrives marked "more of the same". There's nothing like brighter, whiter Weston Bond for premium quality and appearance at no extra cost. Available in white and five colors — also in Weston Opaque Bond and Weston Bond — Litho Finish. Envelopes to match. Write for sample book.

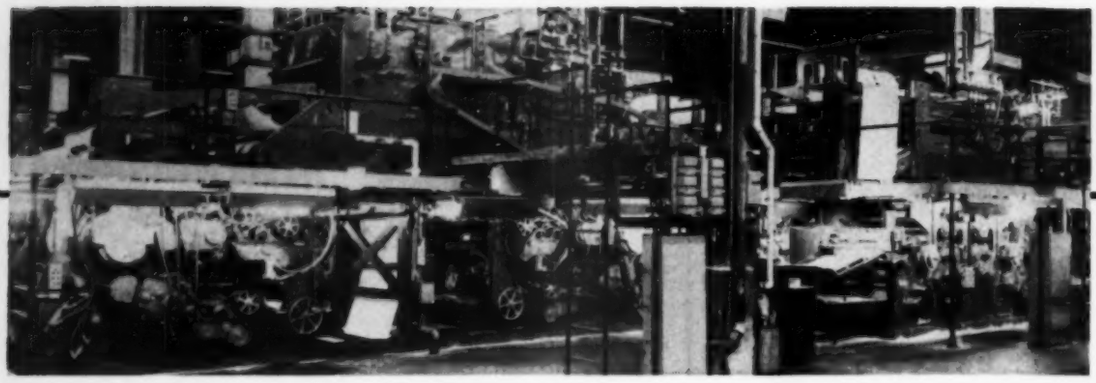
WESTON PAPERS · PROTECT YOUR RECORDS ·

BYRON WESTON COMPANY

Makers of Fine Papers for Business Records Since 1863

DALTON, MASSACHUSETTS

BUY BABCOCK FOR COLOR



a complete line of COLOR equipment for R.O.P., Magazine, Gravure and Offset.

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Life
Cosmopolitan
Harper's Bazaar
House Beautiful
Good Housekeeping
American Home
Family Weekly
American Weekly
Town & Country

ublishers and printers with an eye
rd highest-quality workmanship and
operational efficiency, BABCOCK offers
a complete line of **COLOR** equipment for letterpress, offset and gravure users, available with former or jaw folders. BABCOCK also manufactures R.O.P. color units, gate folds, imprinters, sheet-fed offset and proof presses of utmost reliability and has had extensive experience in designing and building presses to individual requirements.

Remember, COLOR sells, and COLOR'S at its best on a Babcock press!

BABCOCK

PRINTING PRESS COMPANY

CANTON, OHIO

"Competence Guides Our Future"

April 1956

PRINTING EQUIPMENT Engineer

An industry-wide technical magazine published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields, covering major processes.

Volume 86 Number 7

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EDITORIAL STAFF

MacD. Sinclair, Editor

Adam Henri Reiser
Associate Editor

Arthur W. Zimmerman, jr.
Assistant Editor

BUSINESS STAFF

Don Will, Publisher

J. A. Petrequin, Sales Promotion Manager, 1276 West Third St., Cleveland 13, O. Phone: PRospect 1-0088.

William L. Osborn, Eastern Advertising Representative, 2709 Grand Central Terminal, New York 17, New York. Phone: MUrray Hill 6-5980.

Melburn O. Simmons, Mid-West Advertising Representative, 333 North Michigan Ave., Chicago 11, Ill. Phone: DEarborn 2-6467.

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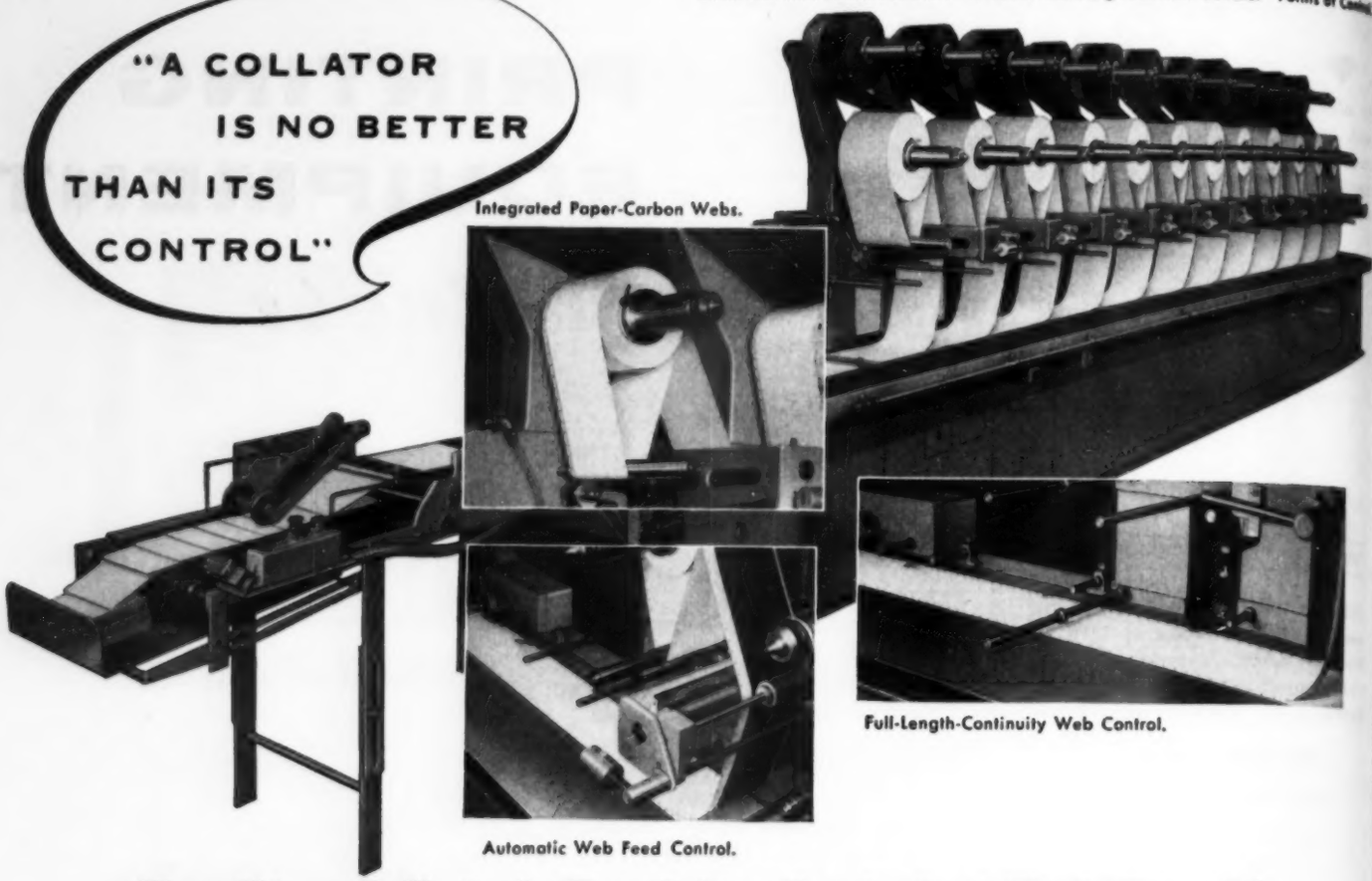
Sixth and final advertisement of a series featuring Hamilton Collator "Points of Control"

"A COLLATOR IS NO BETTER THAN ITS CONTROL"



Integrated Paper-Carbon Webs.

Full-Length-Continuity Web Control.

Automatic Web Feed Control.

Hamilton Collator's Precision-Control-at-High-Speed* can INSURE YOUR COMPETITIVE POSITION

TOP SPEED and TOP ACCURACY of the trade!

•

RESULT

•

TOP OUTPUT TOP QUALITY

TOP PROFITS!

are the reasons for the outstanding performance of Hamilton Collators

Inevitably Responsible, Are Hamilton's Unique 3 PRIMARY POINTS OF CONTROL

1

Integrated Paper-Carbon Webs: Paper is cemented to carbon as they unroll, reinforcing the carbon and facilitating web feeding (a Hamilton patent).

2

Automatic Web Feed Control: A broad range of hand adjustment is supplemented by self-regulation for web tension at all speeds.

3

Full-Length-Continuity Web Control: One continuous, universal pin band, gently engaging the web without interruption for approximately 90% of its unwound length.

can be "tailored" to fit individual customer needs. Being modular in construction, Hamilton Collators can be expanded or altered as the customer progresses in the industry.

Call in a Hamilton Sales Engineer today. You, too, can benefit from our quarter-century background in the paper-converting industry.

*

for example, 18,000 sets of 8½" forms

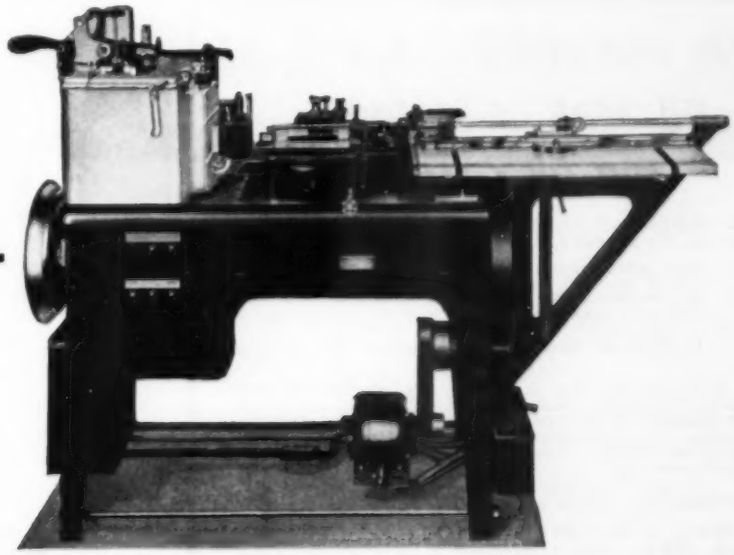
LEADERSHIP THROUGH PIONEER RESEARCH

PRECISION BUSINESS FORM MACHINERY

The HAMILTON TOOL COMPANY

910 HANOVER ST., HAMILTON, OHIO

Here are aptly illustrated Elrod versatility and its wide range of product—an abundance of leads, slugs, rule border and base material from 1 point to 36 points in thickness—all from a single machine. Simple in design and mechanism, the Elrod consistently delivers an accurate product of high quality that meets exacting modern printing requirements. An Elrod installation in your plant will help to end strip material shortages, with consequent wasteful practices, and assures a continuous supply for most composing room needs. The Elrod is dependable, efficient equipment which has proved itself through the years in hundreds of important printing and publishing plants, to complete satisfaction of the user. Write us for full information as to how the Elrod will help you to lower material production costs in your plant. Available in either gas or electric models.



The Elrod

proven in the industry by years of experience

Ludlow Typograph Company 2032 Clybourn Avenue, Chicago 14

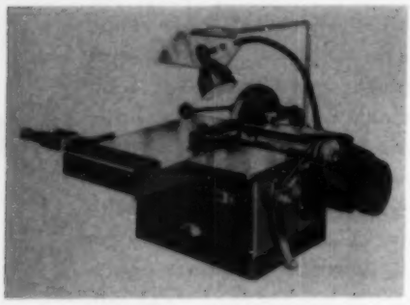
Set in members of the Ludlow Tempo family

Equipment and Supplies

If you wish additional information concerning equipment, supplies and/or technical literature, please make your request to PRINTING EQUIPMENT Engineer, 1276 West Third St., Cleveland 13, O.

Bench Saw-Trimmer

A bench saw-trimmer featuring a ball bearing rolling table design has been developed by Nolan Corporation.



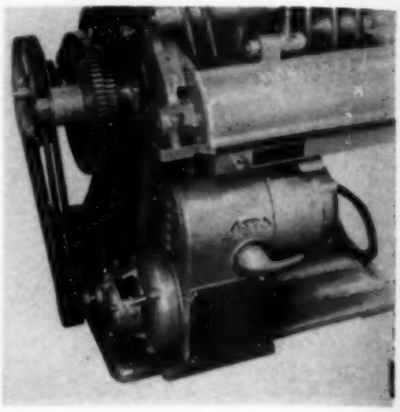
The Nolan Meteor bench model saw is constructed with a table top measuring 20 in. by 22½ in. overall and a rolling section 12 in. by 22 in. A counterbalanced elevating saw arbor is also featured. An 87 pica micrometer gauge is said to make accurate cutting possible. An extension gauge is available to provide work capacity up to 148 picas. A single action work holder with a maximum capacity of 42 picas and minimum of 8 points is included. The Meteor Saw also is equipped with safety features such as a belt guard, saw guard, chip guard and thumb guard. The Meteor is available with either ½ h.p. motor and 7 in. diam. blade or ⅓ h.p. motor and 6 in. diam. blade. With either motor, the trimmer is portable and can be operated on a bench, or imposing table. For further details, please mention PEE No. 88 in your request.

Router Bit

The Geo. Tarpley Co. recently announced the addition of a router bit to its standard line of tools. The bit is used for routing through shell cast stereotypes and for routing drop outs. The router bit is designed with more clearance and a straight, shorter blade for additional strength to eliminate the building up of metal on the heel of the bit. The tool, it is claimed, eliminates difficulty when using a regular tapered point tool for deep routing or routing completely through shell cast material. The bit is referred to as a veining tool or Tarpley Style AB and is made in three sizes, ¼ in. AB, $\frac{3}{16}$ in. AB and ⅛ in. AB. The Tarpley bit will fit all standard routers. For further details, please mention PEE No. 87 in your request.

Varidrive Equipment

Varidrive equipment to be used in conjunction with a Monotype Composition Caster has been announced by Lanston Monotype Corp. The equipment was built specifically for a machine casting type up to and including 36 pt. The Caster can be equipped with the Varidrive to provide a speed range from 20 to 200 r.p.m. for machine typesetting up to 18 pt., or it can be equipped to provide a speed



range from 9 to 200 r.p.m. which furnishes the lower speeds needed for casting the larger sizes of display type. Previously, a machine for this range of typecasting would have the Speed Device on the cam shaft side, but the Varidrive has eliminated the need for the old speed device. All Monotype Type & Rule Casters are

(*Continued on Page* 10)

ARE YOU READY... FOR '56

THE YEAR OF DESTINY...

FOR THE GRAPHIC ARTS?

The PRINTED sales-message has come into its own . . . because it's the BEST-PAYING advertising dollar.

More money spent on Direct Mail than on Television. TWICE as much spent on Direct Mail as on Radio. $451,000,000. MORE Direct Mail in 1954 than in 1950. (1955 will reveal STILL more and '56 . . . the sky is the limit)
$1,374,000,000. spent on Direct Mail in '54.

Is it any wonder that in three weeks recently, 181 firms ordered the NEW "Gold-Mine" BAUMFOLDER . . . to get the greatest possible profit in '56 of the most profitable printing . . . naturally, Direct Mail Printing (and it ALL has to be FOLDED . . and FOLDING is the most profitable of all operations).

It cuts. It scores. It perforates. It pastes.
(Will fold . . paste and trim 6,000 booklets an hour)

Printing is the *ONE* INDISPENSABLE INDUSTRY. (Way back Charles Dickens eulogized it as such and every thinking man knows it).

Over twenty thousand firms testify the "Gold-Mine" BAUMFOLDER is the ONE INDISPENSABLE AUTOMATIC in their plant.

It is our pleasure to offer the fabulous NEW MODELS on pay-for-itself terms . . . and every size priced at a fraction of what you'd expect for the closest-precision-built . . . life-time "Gold-Mines."

This is the HOUR of DECISION. Won't you accept one or more than one NOW, realizing how MUCH it will COST you to try to compete withOUT it, yet costs NOTHING to OWN it, because DAILY AND FOR A LIFE-TIME "it puts money IN thy purse."

RUSSELL ERNEST BAUM, INC.

615 Chestnut St., Phila. (6) Pa.

14 x 20 17½ x 22½ 22 x 28 25 x 38 31 x 46 60

NEW ENGLAND NEWSPAPER SUPPLY CO.

Consolidated with

NEW ENGLAND FIBRE BLANKET COMPANY

164 FREMONT STREET • WORCESTER, MASSACHUSETTS

GARDENER G. DeMALLIE, *General Manager*

NEW YORK OFFICE · CHICAGO OFFICE · SOUTHWEST OFFICE · WEST COAST OFFICE

MEAD PAPER

runs true

to the guides

In these days, when volume production is so important, it is essential for paper to handle well through the press. Sheets are made wider, because modern presses are wider, yet sheets must still present a flat and level edge to the grippers. Even more important is the delivery end, and here sheets must have a certain stiffness so that they actually *float* onto the layboy with a minimum of drag, which might cause set-off and smearing. A stiff sheet also suffers a minimum of end-curl or embossing from the impact of a heavy form. To achieve the required stiffness, Mead uses only new pulps supplied largely from its own woodlands and pulping operations. And before blending to form the printing sheet, each pulp is separately processed and refined.

The Papermaker Contrives to Please Everybody. Stiffness is a help to most printing operations, but it has its critics. Publishers and readers want limp paper so that a hard-bound book will lie open. Producers of direct-mail pieces want limp paper because it folds better. Mead sees both sides of the question and tries to produce printing paper to satisfy everybody. Fortunately stiffness does not necessarily mean boardiness. Often such a quality as an extra measure of bulk achieves the desired stiffness while at the same time giving the sheet the "cushion" so valuable in cutting down makeready time and increasing faithfulness of reproduction.

Mill-Conditioning Helps Make a Good Printing Sheet. Perhaps the most important feature of Mead Papers, to the pressman, is their mill-conditioning. They carry a moisture content suited to the average printshop in America, thus solving the problem of misregister to the greatest possible extent. This prehumidifying reduces curling, cockling and dimpling and also helps dissipate static, the big obstacle to easy handling.

Whatever your requirements in papers for good printing, whether by offset, letterpress or gravure, you can get it *all* from Mead, Papermakers to America.

THE MEAD CORPORATION

Papermakers to America

MEAD *papers*

Sales Offices: Mead Papers, Inc., 118 West First Street, Dayton 2, Ohio • New York • Chicago • Boston • Philadelphia • Atlanta

Equipment & Supplies

(Continued from Page 8)

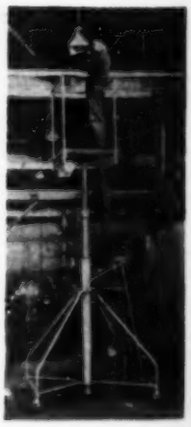
now equipped with Varidrive equipment and the old transmission on the Giant Caster has also been replaced with Varidrive. Some of the advantages of the Varidrive are that it changes position of the motor from under the metal pot; use of the V-belt drive is more positive; operating speeds can be varied in increments of one revolution, and it enables the operator to vary machine speeds while the machine is in operation. Use of the Varidrive is said to furnish a smooth and quiet operation. The motor is ⅓ h.p. For further details, please mention PEE No. 96 in your request.

Storage Tank for Acid—Announcement is made of a series of polyethylene tanks, designed for storing and mixing corrosive chemical solutions, is now available from the American Agile Corp. This new line of tanks is equipped with draining faucets for transfer of solutions. It is reported the tanks handle electroplating baths, both regular and Dow Formula. Principal advantage claimed for the tanks is an exceptional service life with correspondingly low replacement costs. Tank illustrated is a 17 in. by 17 in. by 17 in., with ½ in. wall and a ⅝ in. bottom. The shell of the tank is molded of polyethylene and the tank is reinforced at the top with a heavy molded band. Shown also is a 10 in. polyethylene funnel and a 5 gal. polyethylene bottle. Other tanks in the line measure 9 in. by 9 in. by 9 in. with a 3 gal. capacity; 12 in. by 12 in. by 12 in. with a 7 gal. capacity; and 15 in. by 15 in. by 15 in. with a 14 gal. capacity. For more information, please mention PEE No. 98 in your request.

Hydraulic Pump Oiler

A 2 qt. hydraulic pump oiler capable of delivering a full stream or one drop of oil has been introduced by Eagle Manufacturing Co. The pump is available with either vertical, angle or flexible spouts, all interchangeable. Oil delivery is dependent on the pressure exerted on the thumb lever. A controlled-measure attachment can be fitted on the handle to give the user a means of accurately controlling the amount of oil ejected. The Eagle Oiler is recommended for use where heavy machinery parts are oiled. For further details, please mention PEE No. 89 in your request.

Hydro - Electric Work Tower — Safway Steel Products, Inc., has recently introduced a brand new hydroelectric elevating work tower for one-man use which can be plugged into any 110 v. a.c. outlet. Powered by a ¾ h.p. single phase electric motor which operates a hydraulic pump, the work platform can be raised from 7 ft. to 17 ft above the floor in 25 sec. Work capacity of the life is 400 lbs. The work tower is provided with 50 ft. of heavy duty extension cable. Press a foot button on the platform controls elevation; a hydraulic release valve controls lowering of the platform. Towers are equipped with 5 in. diam. wheels



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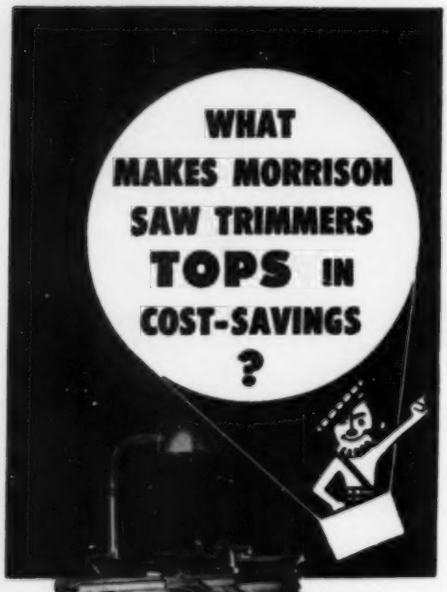
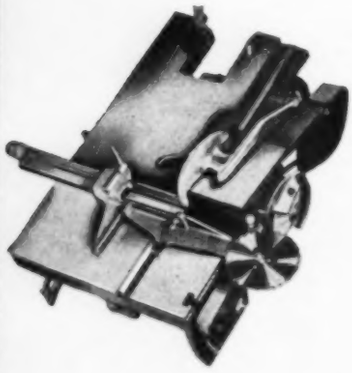
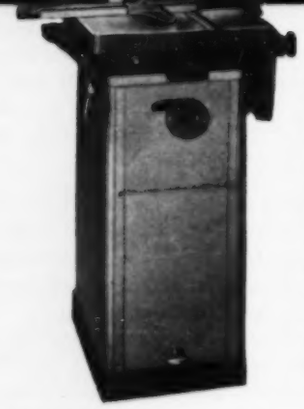




Do-it-Yourself Saw Grinding Attachment



Actually this Saw Grinding Attachment alone will eventually pay for your Morrison Saw Trimmer! You'll avoid all outside expense and chargeable labor time keeping blades sharp. Anyone in your plant can sharpen your saw blades with this simple, accurate grinding attachment — in less time than required to change blades on other machines. Another saving — Morrison Patented Universal Saw Blades cut 3 to 5 times more material between sharpenings.

Write for complete catalog on Morrison Saw Trimmers illustrating many other features that make them your best investment for composing room efficiency. Four models fit every plant, every budget.

THE *Morrison* COMPANY

125 W. Melvina Street • Milwaukee 12, Wis.

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expert quality plastic binding

right in your own organization

OTHER MODELS AVAILABLE FOR EVERY SIZE OPERATION

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punching and binding machine

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General Binding Corporation
812 W. Belmont Avenue
Chicago 14, Illinois

Dept.-PE36

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- It's Economical
- It's Versatile
- It's Distinctive

IT'S LOOSE LEAF and INTERCHANGEABLE

Standard GBC punch pattern accommodates Wide-Back or Narrow-Back plastic binding as well as new GBC metal loose leaf binder.

FIRST CLASS
Permit No. 36621
(Sec. 34.9 P.L.&R.)
Chicago 14, Ill.

Via Air Mail

BUSINESS REPLY CARD
No postage stamp necessary if mailed in the United States

5¢—Postage will be paid by—

GENERAL BINDING CORPORATION
812 W. Belmont Avenue
Chicago 14, Ill.

Use this Postage Paid
AIR MAIL CARD
FOR YOUR
FREE BOOK

USERS OF HOE'S REEL, TENSION AND PASTER MECHANISM REPORT:

Uninterrupted Production, minimized paper wastage

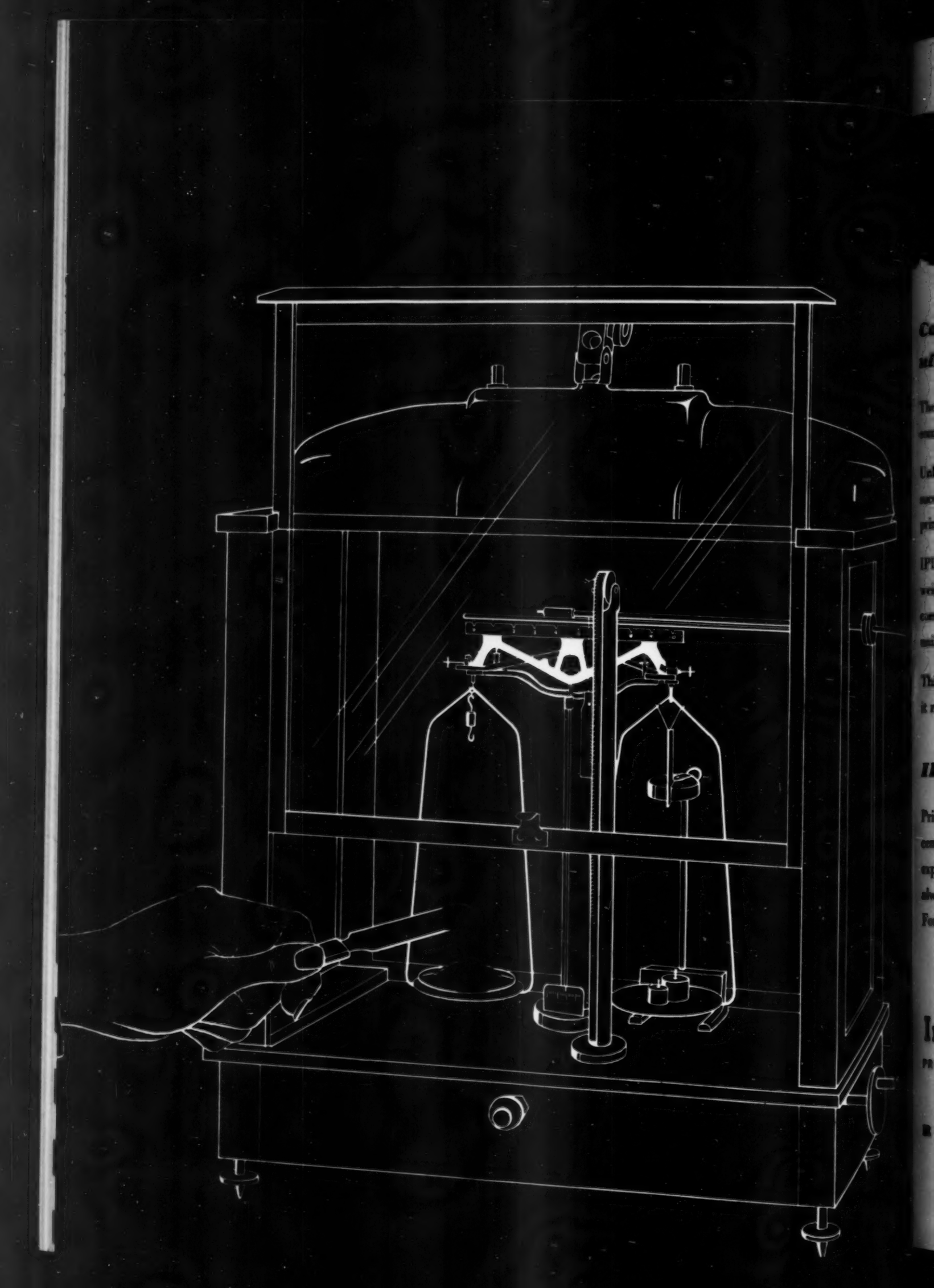
Higher newsprint prices make it important to think of reducing newsprint wastage. And Hoe's reel, tension and paster mechanism has shown how effectively this can be done with unusually high web splicing records. And it doesn't stop there. The Hoe reel also features push-button splicing *without any reduction in operating speed.* Splices can be made at all speeds and over a wide range of roll diameters.

Should any inaccuracies turn up in the paper due to flat rolls or loosely wound edges, a spring backed equalizing roller automatically compensates for them. Despite extra and exclusive features like this, Hoe reels are simple in construction and require little maintenance. And placement of all controls outside the press makes this mechanism safe and convenient to operate.

There are over 1200 of these Hoe Web Splicing Mechanisms in operation in 102 plants in North and South America. Their high level of operating efficiency is unmatched. As a result, they are frequently used with many presses of other makes as well as with all Hoe Newspaper, Rotogravure, Magazine, Multi-Color and Web Offset Presses.

R. HOE & CO., INC.

910 East 138th Street New York 54, N. Y.
BRANCHES: BOSTON • CHICAGO • SAN FRANCISCO
BIRMINGHAM • PORTLAND, ORE.



Color strength in IPI inks is evaluated by these ultra-precision balances for better color uniformity

The components in a printing ink formulation, unless properly dispersed, can throw a formula completely out of balance.

Unless the pigment is well dispersed in an ink, random samples from a single batch and successive batches of this ink will vary perceptibly in color strength. This results in low quality printing, imperfect color matches and less mileage.

IPI technicians check pigment dispersion by the use of balances or scales sensitive enough to weigh an eyelash. They can measure ink samples to within one-millionth of an ounce and compare the results against established color standards for each individual ink. Thus, color uniformity of each batch of ink is tested before a shipment leaves one of our factories.

This scientific yardstick is further proof of the emphasis IPI places on quality control. For you, it means high quality inks—and better quality printing.

IPI service at work for you

Printing plants of all sizes are invited to use IPI's complete ink service facilities in printing centers from coast to coast. Each local IPI service station and branch is staffed by local experienced ink men, well-seasoned in the special printing problems of each locality. They are always on call to help you solve any printing problems—large or small—that may arise. For prompt ink service with a personal touch, contact IPI.

IPI and IC are trade-marks of Interchemical Corporation

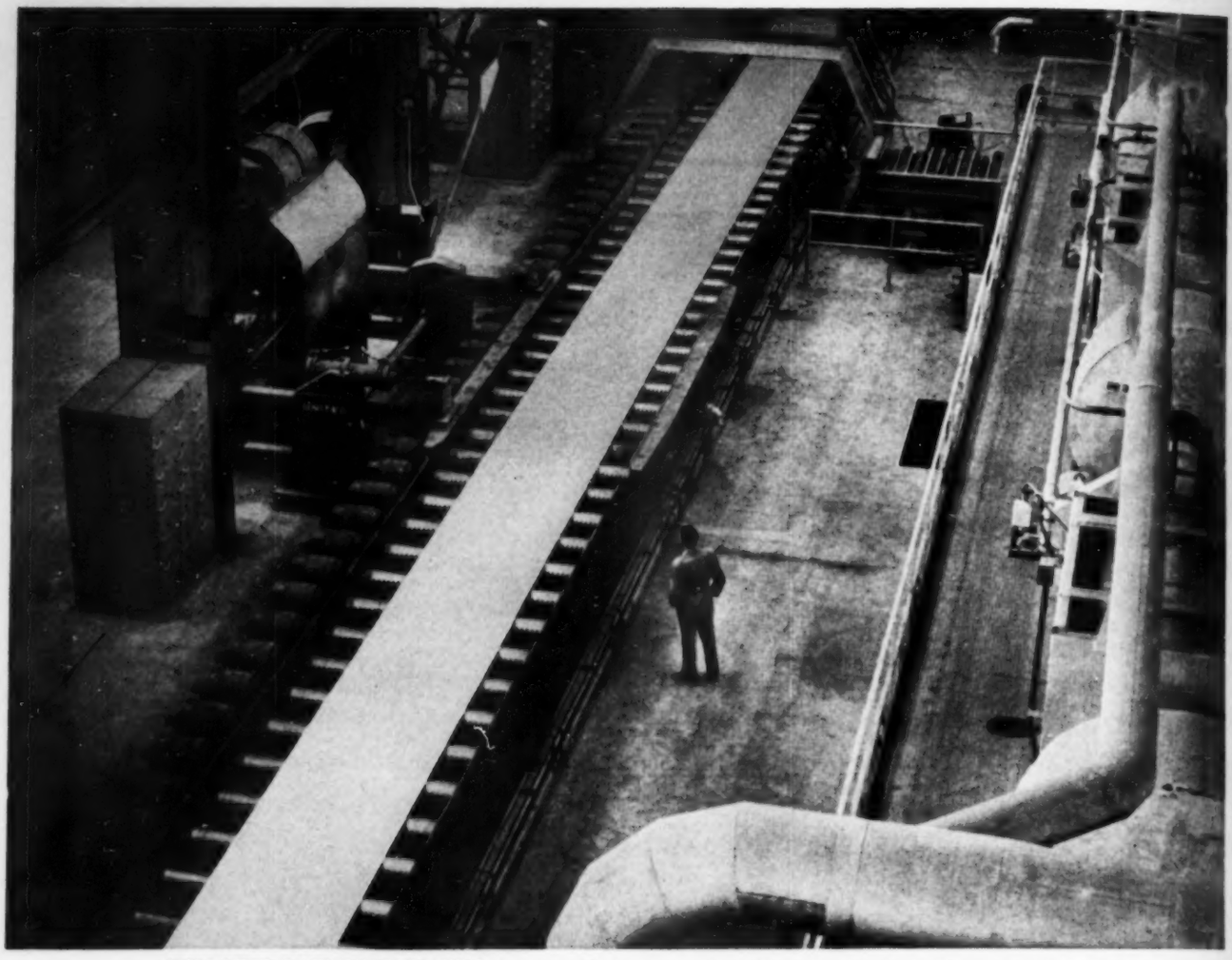
Interchemical Corporation

PRINTING INK DIVISION • 67 W. 44th ST., NEW YORK 36, N. Y.

RELY ON IPI FOR LEADERSHIP IN INK RESEARCH

Made with MAGNESIUM for better reproduction

DOW



THIS NEW DOW ROLLING MILL is now producing magnesium photoengraving sheet in large quantity

PRODUCTION ROLLING FOR MAGNESIUM PLATES!

Economy, light weight and reproduction quality—
big reasons why this superior photoengraving metal is fast
gaining popularity with engravers and printers alike

Engravers like it. So do printers. That's why magnesium—a relatively new engraving metal—is now used for 25 to 30% of *all photoengraving* plates!

Economy, light weight and quality of reproduction have already been named as reasons for this extremely rapid growth. But there are several other reasons: Etchability and machinability are faster and easier with magnesium. Good dimensional stability ensures register. Then there's outstanding wearability—for direct printing, as well as molding of stereotype mats and electrotypes.

Getting back to light weight, magnesium is four times lighter than zinc . . . five times lighter than copper! Naturally, it's much easier to handle.

Consider the many benefits of magnesium photoengraving plate—for all concerned. Then consider its moderate price and ready availability. Chances are good you'll want to investigate this superior engraving metal for your own operation. Contact your local supplier of engraving metals or THE DOW CHEMICAL COMPANY, Magnesium Sales Department MA 383U, Midland, Michigan.

you can depend on DOW MAGNESIUM DOW

How much would a HAMILTON-equipped Dispatch room save your paper?

That question can't be answered . . . yet. But the fast-growing popularity of Hamilton-equipped dispatch rooms proves beyond doubt they produce savings for newspapers of all sizes.

What is it? A Hamilton-equipped dispatch room is an ad-material processing center. It consists of specialized filing cabinets for safe storage and proper indexing of mats and cuts . . . work areas for efficient handling . . . and improved means for transferring ad materials.

How does it work? As ad copy comes to the dispatch room it is assigned a dispatch tray, which follows the ad through to completion. Cuts, signatures, mats and stereos are accumulated, and the tray is dispatched to the composing room. After the ad has run, reusable ad materials are returned to the dispatch room and refiled.

What does it mean to you? A Hamilton-equipped dispatch room gives immediate savings in improved handling of ad materials. And since a dispatch room is manned by lower salaried clerical help or trainees, your compositors are freed of all routine handling of these materials.

How much would a Hamilton-equipped dispatch room save your paper? Let us help you find out—write for complete details now!

A dispatch room equipped with compact, modular Hamilton dispatch units. This flexible equipment can be easily adapted to newspapers of any size.

Hamilton

DISPATCH EQUIPMENT

Hamilton Manufacturing Company
Printers Equipment Division
Two Rivers, Wisconsin

Please send complete details on dispatch room equipment.

Name_____

Firm_____

Address_____

City_____ Zone_____ State_____

Convert your ROSBACK Auto-Stitcher into a small gang stitcher with this *Rosback*® GATHERING SADDLE

The Rosback Auto-Stitcher is one of the most popular cost-cutting machines we have ever produced. Now, every Rosback Auto-Stitcher can be converted into a small gang stitcher by the addition of our Gathering Saddle—further increasing the profit possibilities of your Auto-Stitcher.

This Gathering Saddle with chain feed operates the same as any gang stitcher. Two, three, or four operators may work at the same time. Gathering and stitching are done in one continuous operation—you eliminate the cost of collating time and also handle more signatures. The Rosback Gathering Saddle can be added to Rosback Auto-Stitchers now in use and is furnished as an optional accessory on new machines. When your Auto-Stitcher is used for single signature jobs, the Gathering Saddle can be easily uncoupled and rolled to one side if you need the floor space for other uses.

The cost of the Gathering Saddle is low—installation is readily accomplished in the field—and the profit-making possibilities in time-saving are tremendous.

See your Rosback dealer for complete details, or write us.

Increased Production Advantages

- Two, three or four operators
- Provides a small gang stitcher
- Eliminates separate gathering
- Easily attached and detached
- Inexpensive to install on existing or new machines
- No change in basic Auto-Stitcher
- Fully guaranteed by Rosback

F. P. ROSBACK COMPANY • *Benton Harbor, Mich.*

WORLD'S LARGEST MANUFACTURERS OF PERFORATORS, WIRE STITCHERS AND PAPER PUNCHING MACHINES

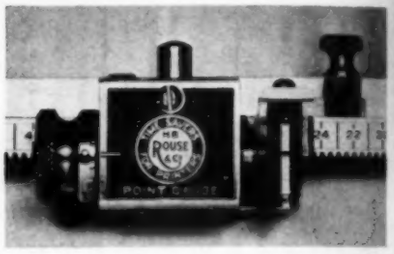
Equipment & Supplies

(Continued from Page 10)

with rubber tires. Positive safety brakes act on both the wheel and the swivel to lock the tower in each working position. A four-legged 61 in. by 61 in. base provides rigid and stable support. Towers can be telescoped to pass through doors as small as 7 ft. high by 30 in. wide. Platform guard rail posts will slide down in their sockets, and the base folds to 30 in. by 80 in. Guard rails are 40 in. high and, in the event of complete hydraulic failure, a mechanical brake is designed to instantly lock the telescoping support tubes in position. Besides the new plug-in tower, Safway Steel also manufactures similar towers in battery operated and hand-operated models. For more information, please mention PEE No. 97 in your request.

Pica Gauge

A pica gauge for use on Rouse Plate Saws and Power Miterers is now available from H. B. Rouse &



Co. Graduations are made on a stainless steel strip inlaid in the gauge bar. The gauge is said to remain legible under all circumstances and insures accuracy of cutting to picas and half picas. The gauge is used in conjunction with the regular quarter point gauge. For further details, please mention PEE No. 90 in your request.

Electric Collator

W. E. Thomas, president of Collamatic Corporation, recently announced that a 24 bin Electric Collator has been added to the company's line. The Model 2400 is for use in the preparation of catalogs, manuals, reports, house organs, etc. The collator is equipped with two fingertip starters, each activating one set of 12 bins One operator can collate from 2 to 24 pages at one time, or two operators may collate two separate jobs that require collating from 2 to 12 pages each. Another feature is a stapling-stacking bin in which is accommodated either an automatic or hand stapler. An automatic counter may be included as optional equipment. For further details, please mention PEE No. 93 in your request.

High Lift Platform Truck

The Yale & Towne Mfg. Co. has announced development of a high lift platform Warehouser truck for high stacking of skidded paper in narrow aisles. The overall height of the truck is 68 in. and a maximum platform

(*Continued on Page* 28)

America's great periodicals are machine-set by the . . .

MONO type *system*

because :

It is the *only* machine typesetting system that provides typographic superiority, high production speed, low production and correction costs, "height-to-paper" accuracy for forms and electros, choice of type faces, and quality of printed results demanded by the magazine standards of today.

There you have it, Mr. Printer! These periodicals are only a few of the publications dedicated to the Monotype® System. Note that they employ letter-press, lithography, rotogravure; print on coated, calendered and antique stock; vary in size, shape, ink specifications and length of run.
But note the one big fact they have in common:

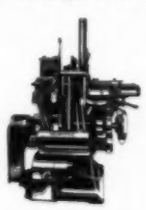
Each magazine is machine-set by Monotype!

Mr. Printer, these are the reasons that apply as much to you as to all these famous periodicals. But, even more important to the commercial printer, with Monotype you can handle any kind of typesetting job that comes along . . . bid successfully on more jobs . . . produce at a greater profit all of the jobs you set.

This advertisement is set in Monotype 20th Century and Bodoni Series

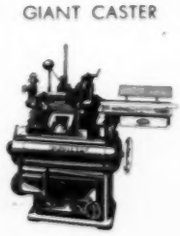
KEYBOARD

COMPOSITION CASTER



MATERIAL MAKER

GIANT CASTER



MONO type LANSTON MONOTYPE MACHINE COMPANY

24th & Locust Sts., Philadelphia 3, Pa.

BRANCH OFFICES

ATLANTA—57 Forsythe Street
BOSTON—80 Federal Street
CHICAGO—216 West Jackson Boulevard
DENVER—A. E. Heinsohn Printing Machinery & Supplies
NEW YORK—441 Lexington Avenue
SAN FRANCISCO—115 New Montgomery Street
CANADA—Monotype Company of Canada, Ltd., 77 York Street, Toronto 1, Ontario
BRAZIL—Companhia Lanston Do Brazil, S.A. Rio de Janeiro

LANSTON MONOTYPE MACHINE COMPANY
24th & LOCUST STS., PHILA. 3, PA.

Yes, I would like to hear more about how I can increase my profits with the Monotype System.

USER ☐ NON-USER ☐ PEE 4-56

NAME.....
COMPANY.....
ADDRESS.....
CITY..... ZONE..... STATE.....

AGAIN...

WOOD PERFECTS A NEW, IMPROVED STEREOTYPE MACHINE

STREAMLINED for faster, easier, in-line plate casting, featuring:

IMPROVED ARCH CONSTRUCTION

•

NEW COOLING AND DRYING STAND

•

MODERN, EFFICIENT V-BELT DRIVE

•

THERMOSTATIC WATER CONTROLS

•

PLATE LIFTER WITH SPRING FOLLOW-UP

•

RIGID, ONE-PIECE FRAME FOR SHAVING ARCH

•

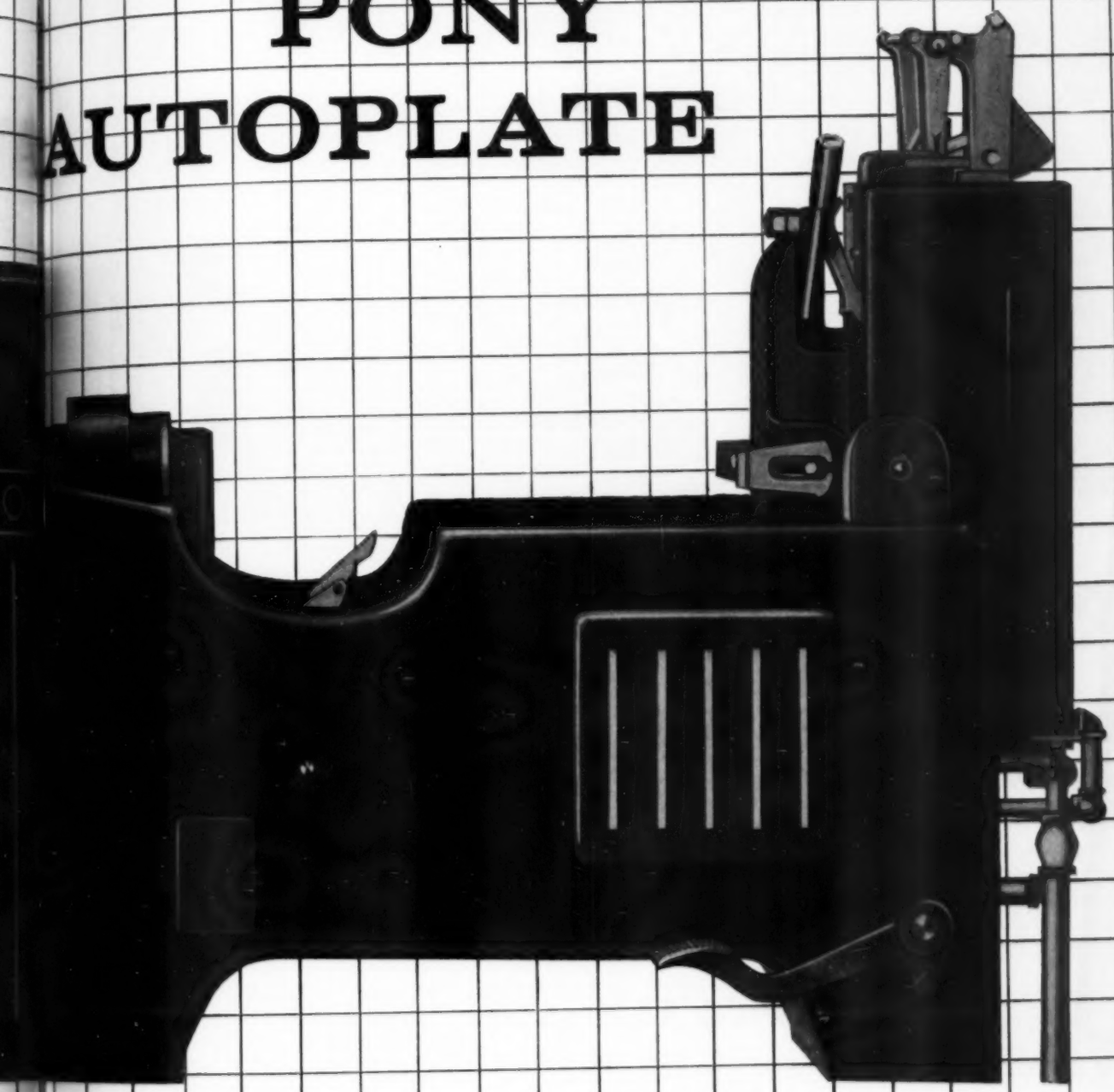
REMOVABLE CHIP-PAN

•

IMPROVED KNIFE BAR ARRANGEMENT

DESIGNED ... newspapers ... for BE...

the NEW STANDARD PONY AUTOPLATE



needs of smaller city
re uniform plate casting.

Wood

WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY • Executive & Sales Office: 501 Fifth Avenue, New York 17, N. Y.

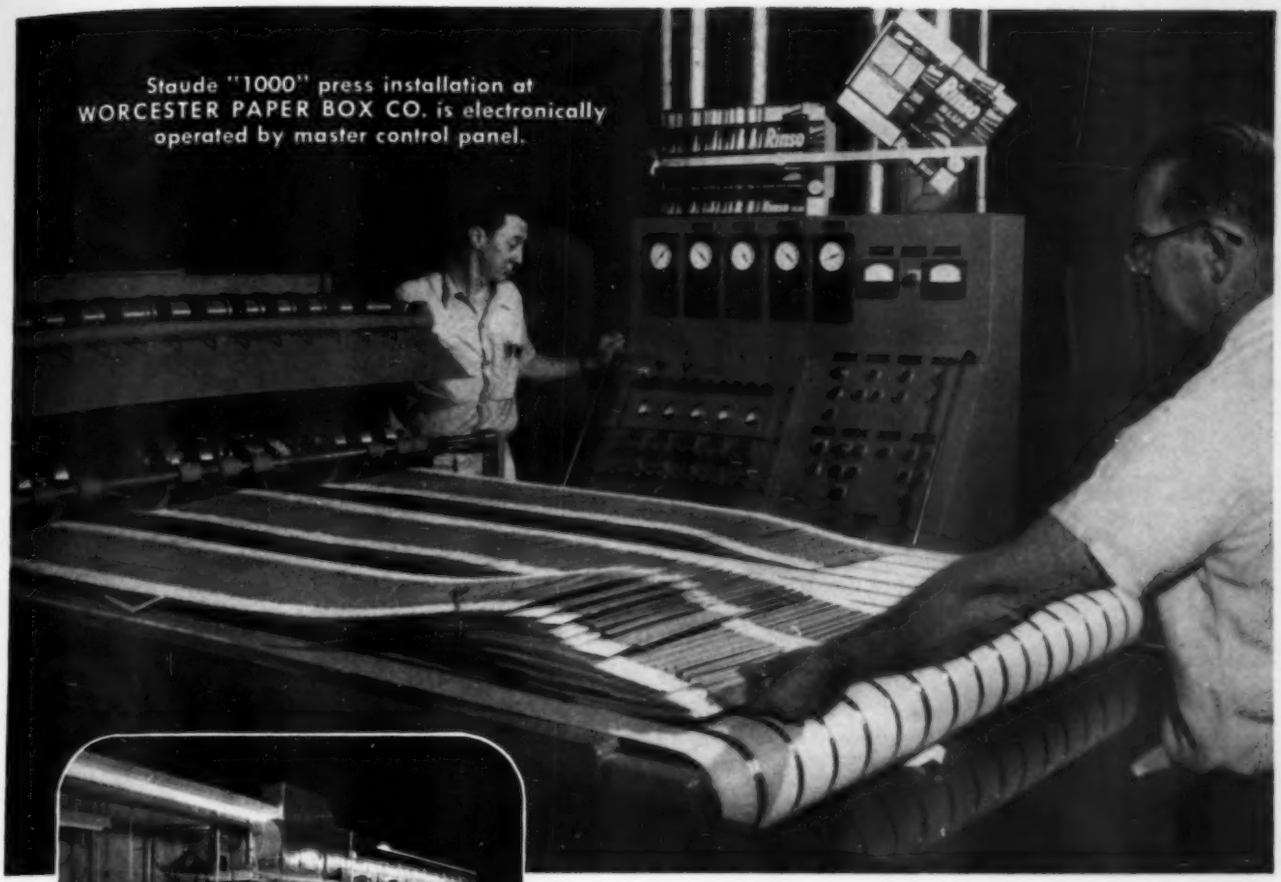
TIME FOR SEASONAL CHANGE TO

SUMMER-TYPE RAPID COMPOSITION ROLLERS

Time really flies! Make sure *you* are ready for warm weather—order now. And be sure to insist on RAPID COMPOSITION ROLLERS. More accurate. More durable. The favorite in leading shops across the nation for years.

RAPID ROLLER CO.

FEDERAL AT 26TH ST. • CHICAGO 16, ILLINOIS



Staude "1000" press installation at WORCESTER PAPER BOX CO. is electronically operated by master control panel.

Another Staude "1000"

The Nearest Approach to "PUSH BUTTON" Printing

Automation—the magical new word symbolic of technical progress, is now a reality at Worcester Paper Box Co. with the installation of an electronically controlled Staude "1000" gravure press as part of a half million dollar expansion.

The only press of its kind in New England, this 150 ft. long, web-fed gravure press produces up to 840 folding cartons per minute in widths ranging up to 44". Finished boxes are delivered already die-cut and stripped-printed in from one to six colors. The "1000" press is equipped with a 72" dia. capacity Staude "Turn-Over Roll Stand", Butt Splicer and Mercury die cutter-creaser.

Register Electronically Controlled

When the web has completed its run through the feeder section, it passes through the first of six printing stations where the initial color goes down and register marks are made. *From that point on the press is controlled electronically!* An electric eye focuses on the register mark laid down by the first cylinder. If, at the second cylinder the scanner finds the cylinder out of register, a hydraulic mechanism is electronically actuated in the proper direction to maintain accurate register.

A master control panel is located at the delivery end of the machine.

Installations such as this, and at other major box manufacturing firms, are convincing evidence of the quality, uniformity and production offered by the Staude gravure process.

Write for Staude "1000" Bulletin

E. G. Staude MANUFACTURING CO., INC.
Rotogravure Press Division: SPRINGFIELD, VERMONT

Eastern Office: 35 Beechwood Ave., Mt. Vernon, N.Y.
Phone: Mt. Vernon 4-3753
Chicago Office: 82 West Washington Boulevard
Phone: ANdover 3-4980

Why HURLETRON automatic COLOR REGISTER CONTROLS are your best buy!

— The most successful and practical automatic equipment for control of color register is the Hurletron Automatic Proportional Color Register Control.

— The Hurletron gives equally good results with cylinder or web compensation. It is not necessary to change the compensation presently in use. Many Hurletron installations are giving excellent results where previous attempts to use automatic controls were unsuccessful.

— The Hurletron automatically maintains register of all colors within a few thousandths of an inch at all operating speeds *and with only a single mark*. It helps the pressmen, increases hourly production, reduces waste, saves time, and cuts operating costs. The exclusive "Auto-Register" facilitates make-ready, reduces start-up waste.

— Today practically every major publication and packaging printer uses Hurletron equipment.

— The greatest percentage of users are those who ordered additional units after an initial installation.

— The new Hurletron makes obsolete all existing color register installations. It is faster, more accurate and particularly effective for close control of running register in publication and packaging printing where a clear track is not available.

— Hurletron offers the only complete service package in the industry. We design and fabricate all components, mounting brackets and fixtures. We provide complete installation data including diagrams, prints, etc. And a factory trained engineer places the equipment in operation and trains resident personnel in operation and maintenance. All this is included in the contract price.

— Hurletron Controls now in use can be converted to the new system at low cost. Factory warranties given on such conversions are comparable to those on brand new equipment.

— The Hurletron is the only control that has been accepted without alteration for use in hazardous areas in every place it has been installed.

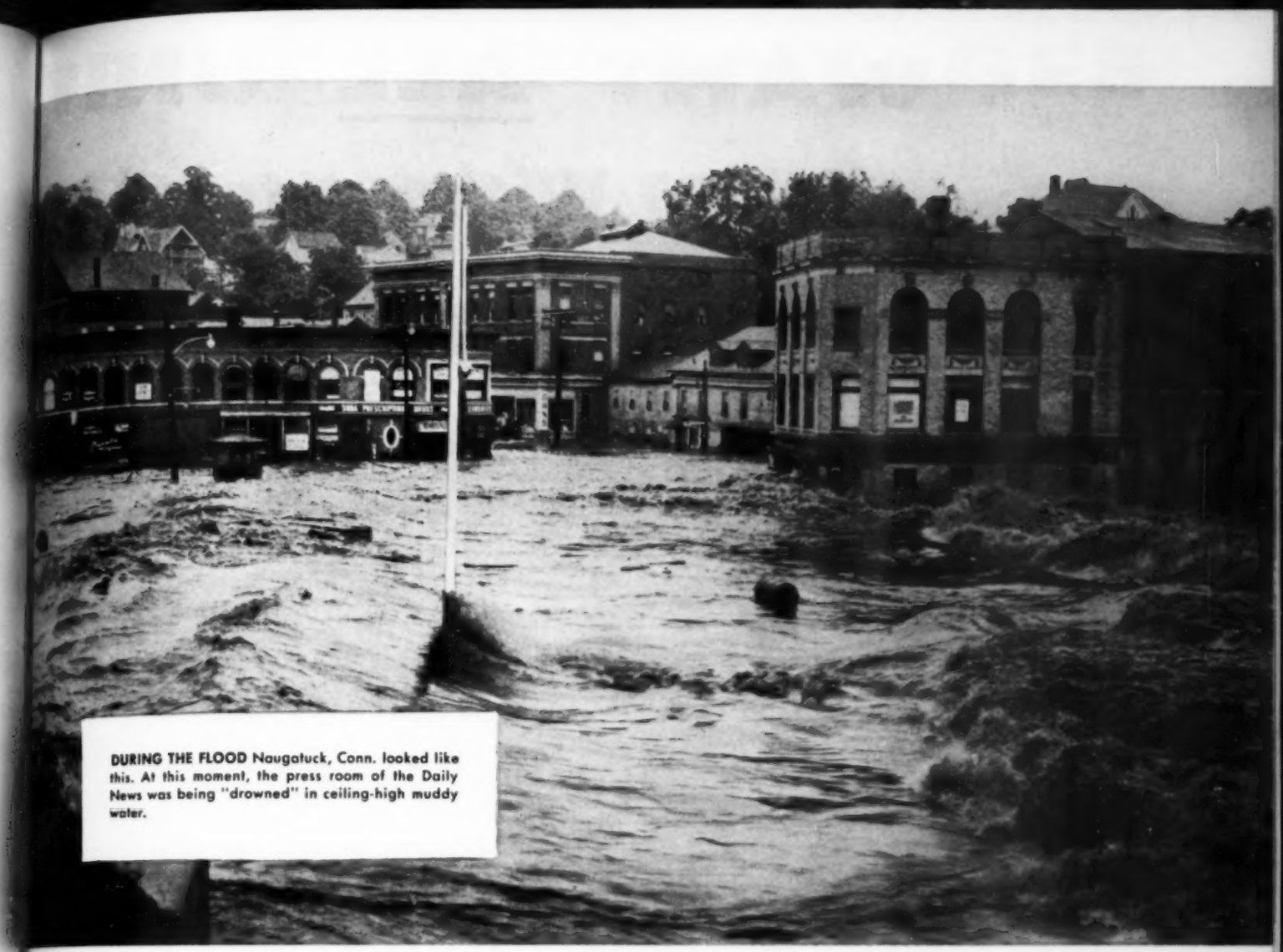
— Hurletron is the only company which maintains a fully staffed field service organization available for consultation and service in the customer's plant on a few hours' notice.

— Qualified customer personnel are invited to attend free schools at the Hurletron factory where theory of operation, maintenance and operating techniques are taught and demonstrated. Only Hurletron provides this important service without charge to the customer.

Hurletron is your best buy in automatic color register control. Superior quality, accuracy, and service combine to enable you to make your greatest savings per dollar invested with Hurletron. Write today for a representative or a free booklet.

HURLETRON
HURLETRON

ELECTRIC EYE EQUIPMENT COMPANY
1930 EAST FAIRCHILD STREET
DANVILLE, ILLINOIS



DURING THE FLOOD Naugatuck, Conn. looked like this. At this moment, the press room of the Daily News was being "drowned" in ceiling-high muddy water.

Is water the only coverage you've got?

Scan-A-Graver is covered against all damage by your lease agreement

Because you lease the Scan-A-Graver, equipment damaged by "Acts of God" like the flood at the Naugatuck Daily News is Fairchild's problem, not yours. It's in the lease, like this: "During the period that the machines and devices are installed on your premises you are relieved of the responsibility for loss or damage thereto caused by fire . . . windstorm, water . . ."

It's OUR Problem . . . and we fix it — *FAST*

Fairchild does more than take the loss . . . they send a representative to get the Scan-A-Graver going again in a hurry. For example; a replacement for the Daily News machine was on its way by Railway Express within hours of a call for assistance. And when flood knocked out the railroad, Fairchild got through over washouts and back roads with another Scan-A-Graver loaded in a station wagon. Within two hours of the arrival of the Scan-A-Graver, Fairchild customer engineer Bob Freeman had the machine installed and in operation . . . to get the paper on the streets with full photo coverage of the disaster.

Exceptional service? Certainly! Fairchild's service is dedicated to one simple idea – to keep Scan-A-Gravers in operation regardless of circumstances.

Ask a Fairchild representative to tell you about the advantages of the Scan-A-Graver Lease Plan and Customer Engineering Service. Address Fairchild Graphic Equipment, Inc., 88-06 Van Wyck Expressway, Jamaica 1, N. Y., Dept. 100-20E.

Bob Freeman, Fairchild customer engineer who drove through mud and high water to put a replacement Scan-A-Graver in operation for the Naugatuck Daily News, inspects paper's picture edition covering the flood.

FAIRCHILD

SCAN-A-GRAVER

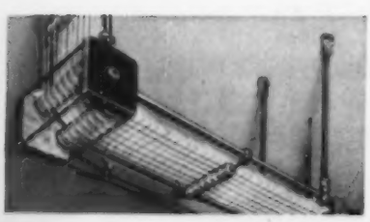
Electronic Engraving Machines

WANT ALL UNIT

Without trouble, d

CUTLER-HAMMER UNIT PRESS DRIVE INSTALLATION *in the Miami Herald*

MIAMI HERALD,
one of Knight Chain of newspapers has this recent installation. Consists of 12 Unit Goss Headliner Press equipped with C-H Unit Press Drives. Runs consistently 44 to 48 thousand newspapers per hour.



CUTLER-HAMMER NEWSPAPER CONVEYORS
Used in practically every conveyor-equipped plant in North America. Standard Duty Type handles up to 56 pages at any speed up to 60,000 I.P.H. Heavy Duty Type handles up to 96 pages at speeds to 60,000 I.P.H.

CUTLER-HAMMER WEB BREAK DETECTORS
Stop press instantly if web breaks. Web can be rethreaded without latching detectors. Easy to mount.

IT DRIVE ADVANTAGES

le, delay, excessive costs?

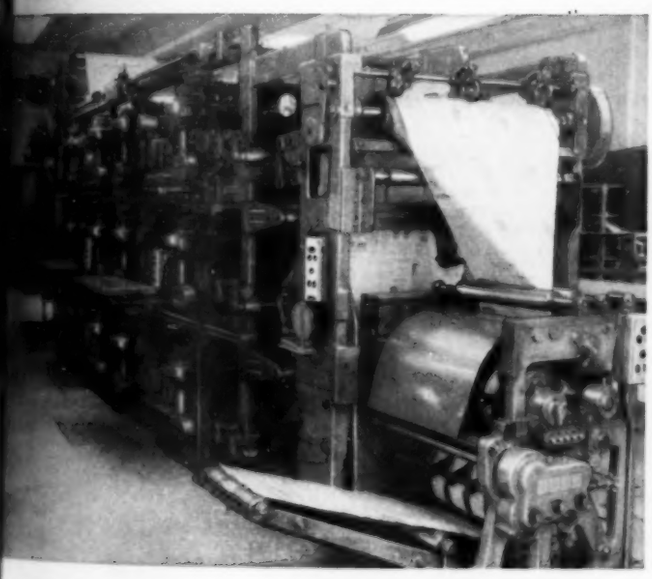
Then keep it simple...Keep it sturdy...KEEP IT CUTLER-HAMMER

There is no need for putting up with trouble in a unit drive press installation. For Cutler-Hammer has achieved the maximum advantages of this type of drive, and done it so simply, so sturdily and dependably that putting on an edition becomes a mere routine matter of course.

Cutler-Hammer has taken the simple, sturdy, *familiar* components—the sturdy Ac wound rotor unit motors, the simple, sturdy, familiar industrial type control components, and integrated them into a unit drive that stands alone and is thoroughly understood by your regular plant electrician. Each press unit has its own driving motor. Each driving motor has its own control . . . its own independent primary control, its own independent secondary control. This gives true unit-type construction and operation. No transferring of main motor circuits from one folder controller to another. Failure of one component won't immobilize the press; the entire press can still be run at top speed without risk of overload.

Each motor has its own braking system, its own braking contactor, its own auto-transformer, its own rectifier for Dc braking. Control is connected directly to commercial voltage supply lines. No transformers. No conversion apparatus. Motors are easily installed; no special alignment between rotors is required. No problem of "dividing" press load, or of circulating currents. No instantaneous peak torque output during acceleration/deceleration. The C-H cam drum accelerator has 83 speed points. Inching and threading *don't* draw current through the battery of motors. These and many more features of operation, safety, easy maintenance at top performance constitute reasons why you should investigate this simplest, sturdiest, most dependable, most advantageous of all press unit drives. Write or phone for further information. CUTLER-HAMMER, Inc., 1460 St. Paul Avenue, Milwaukee 1, Wisconsin.

CUTLER-HAMMER
MOTOR CONTROL
C-H



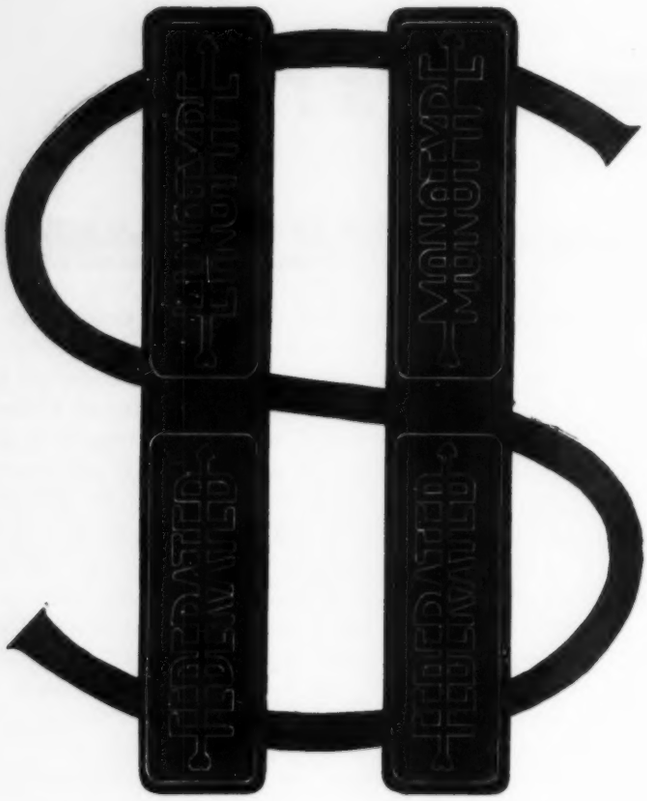
Cutler-Hammer 2 Motor Drives serve many color plants as well as municipal dailies such as

THE EVENING REPUBLICAN
COLUMBUS, INDIANA

Robert N. Brown, Manager, says C-H Drive on Goss Dek-A-Tube Press has given peak performance at all loads from 2 to 24 pages.

Cutler-Hammer drive on Goss Dek-A-Tube Press.

MARSHFIELD NEWS HERALD
MARSHFIELD, WISCONSIN



HOW TO SAVE MONEY ON TYPE METALS

Effective type metal economy is the result of a consistent program of industrial discipline. One thing done wrong can nullify a dozen things done right.

Federated Metals Division offers some interesting printed matter describing ways to handle type metals with an eye to economy. For example:

1. A booklet, "How To Save Money On Type Metals".
2. A wall poster on re-melt practice.
3. A booklet, "Ten Questions on Type Metals".
4. A folder, "The Secret of Castomatic® Type Metals".
5. A folder, "Federated Mor-Tin".
6. A folder, "Federated Type Metal Fluxes".

If you'd welcome any help on type metal problems we'll be glad to send a Federated Service Man.

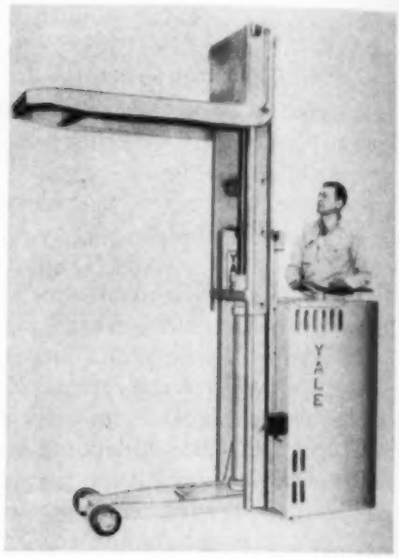
Federated Metals

DIVISION OF AMERICAN SMELTING AND REFINING COMPANY
120 BROADWAY, NEW YORK 5, N. Y.
In Canada: Federated Metals Canada, Ltd., Toronto and Montreal

Equipment & Supplies

(Continued from Page 18)

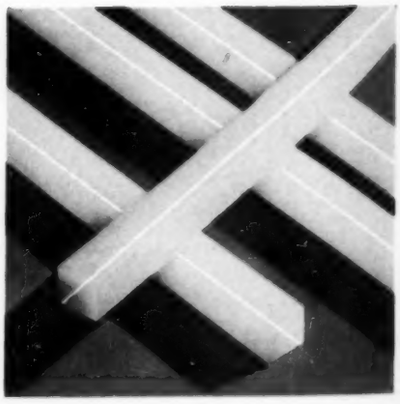
height of 96 in. The truck was designed for use in an 18 v. operation which would provide 2.6 m.p.h. with a 4000 lb. load and 3.4 m.p.h. with no load. Lifting speeds are 20 ft. per min. with a 4000 lb. load and 28 ft.



per min. with no load. Truck can be built for use as a 12 v. operation with which a lifting speed of approx. 12 ft. per min. would be achieved under load while travel speeds remain the same. Truck can be equipped with 36 in., 42 in. or 48 in. long platforms. The Warehouser truck can right angle turn in aisles of 75 in., 81 in. and 87 in. respective to the platform lengths. In lowered position, the top of the platform is 6 in. from the floor. For further details, please mention PEE No. 91 in your request.

Plastic Cutting Stick

Harris-Seybold Co. has taken over national distribution of a plastic cutting stick for paper cutting ma-



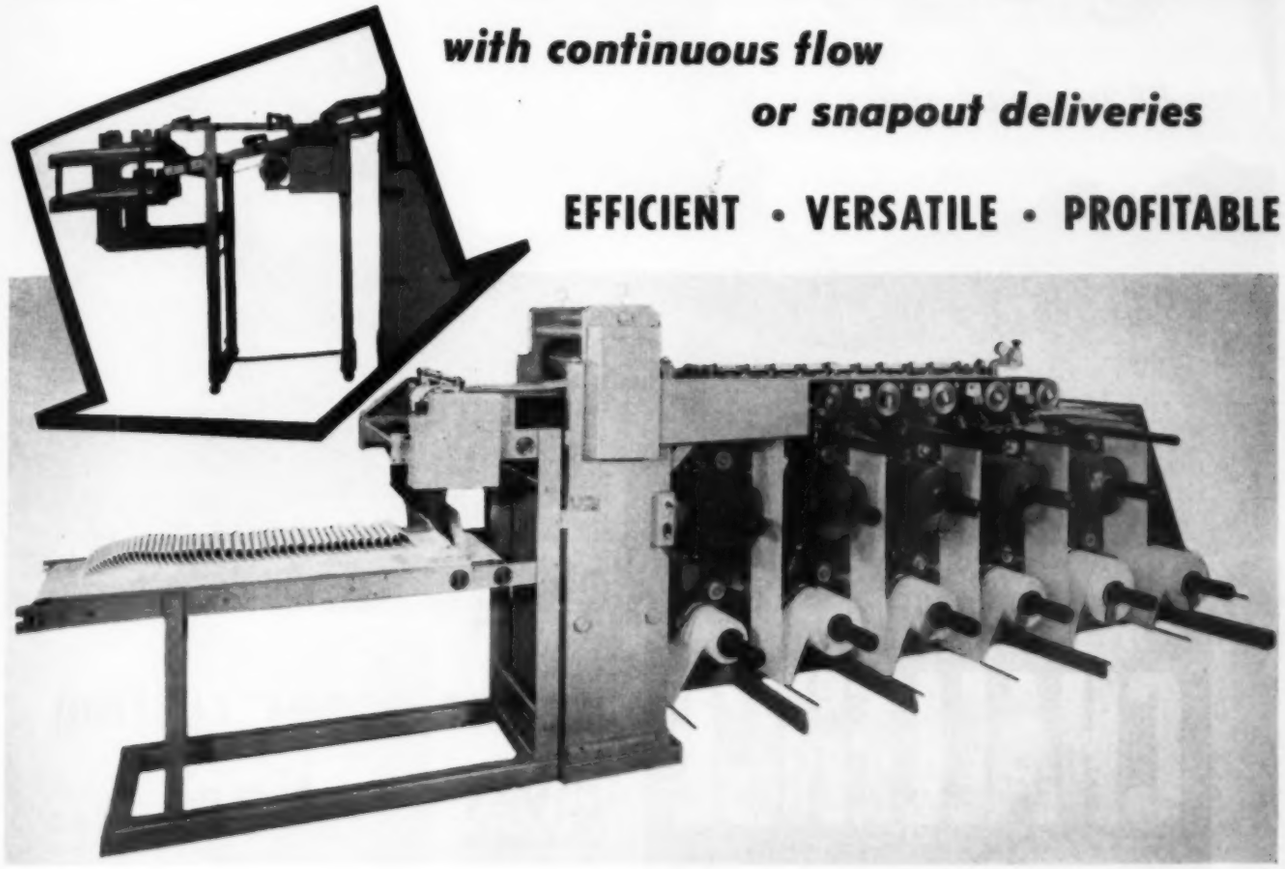
chines, according to announcement by Paul H. Schafer, manager of the company's Special Products Div. The Seybold-Cefaly Stick is made by the

(*Continued on Page* 34)

Presenting the Plant Proved
SCHRIBER FORM COLLATOR

with continuous flow
or snapout deliveries

EFFICIENT • VERSATILE • PROFITABLE



As Snapout Collator

- High-speed rotary cutoff
- Individual automatic roll feed and loop control on each paper and carbon roll.
- 20" max. paper roll diameter
- 16" max. carbon roll dia.
- 18" max. form width
- Automatic double delivery to deliver pre-counted, jogged stacks in alternate delivery boxes.
- Glue applied immediately before parts come together to prevent make up of forms due to dried glue.
- Machine built 6 to 12 parts.

As Continuous Flow Machine

- All parts perforated together on machine.
- Carbon can be free in pack or glued in the stub.
- Paper stubs can be glued for continuous snapout if desired.
- Length of fold fully adjustable.
- Roll sizes and feeds the same as snapout collator.
- Spot carbon easily registered.

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Interleavers • Folders • Staplers • Carbon Processors
Hot Spot Carbon Machines • Imprinters • Snapout Collators • Special Machinery

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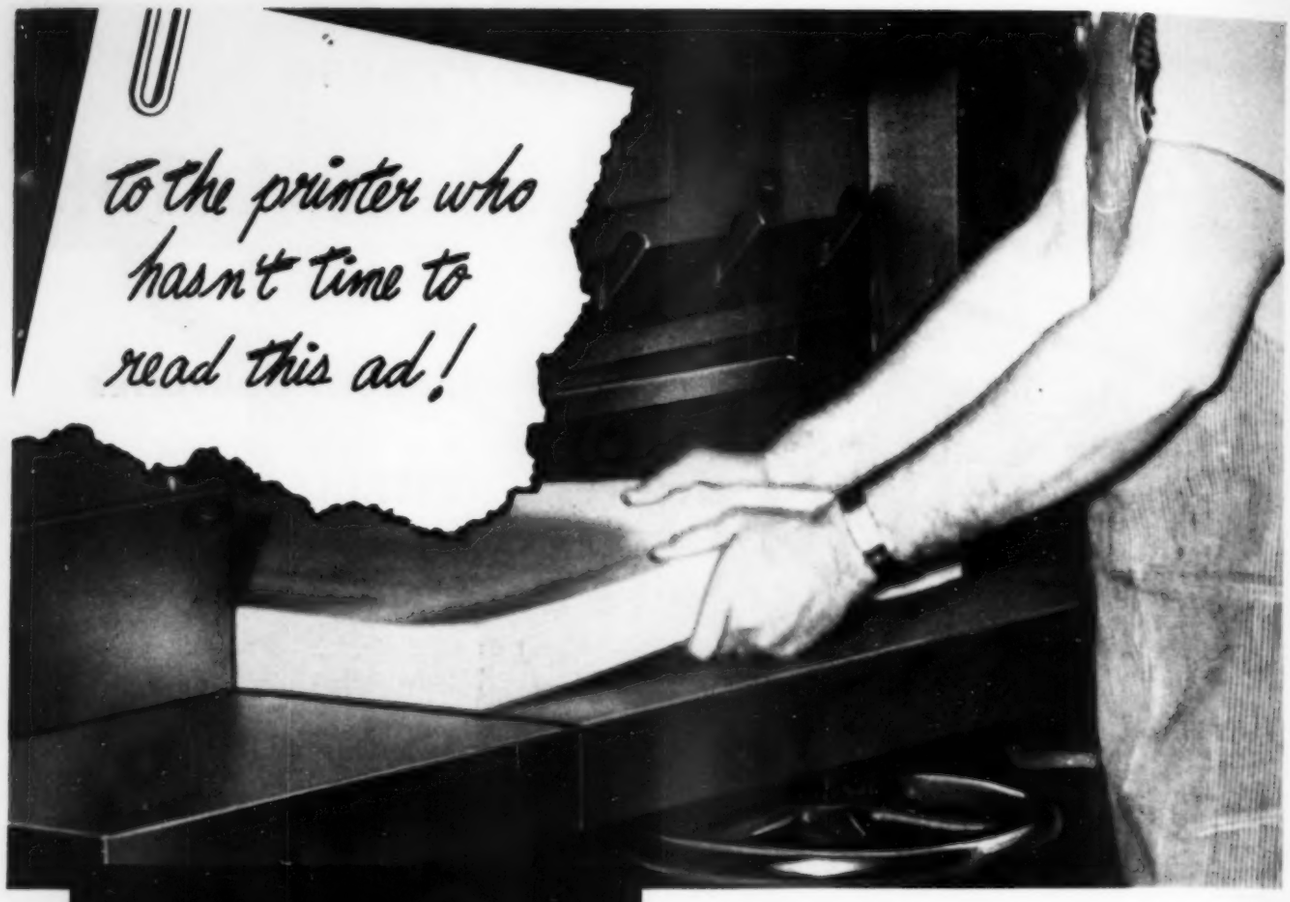

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Over 50 Years in Service of the Graphic Arts

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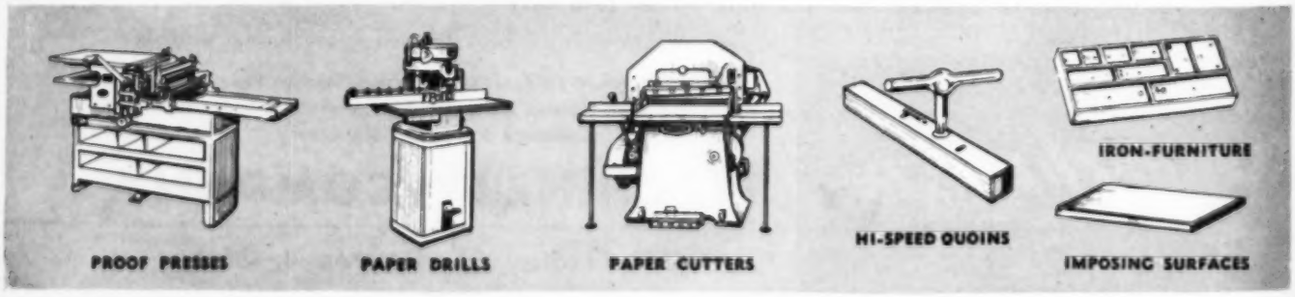

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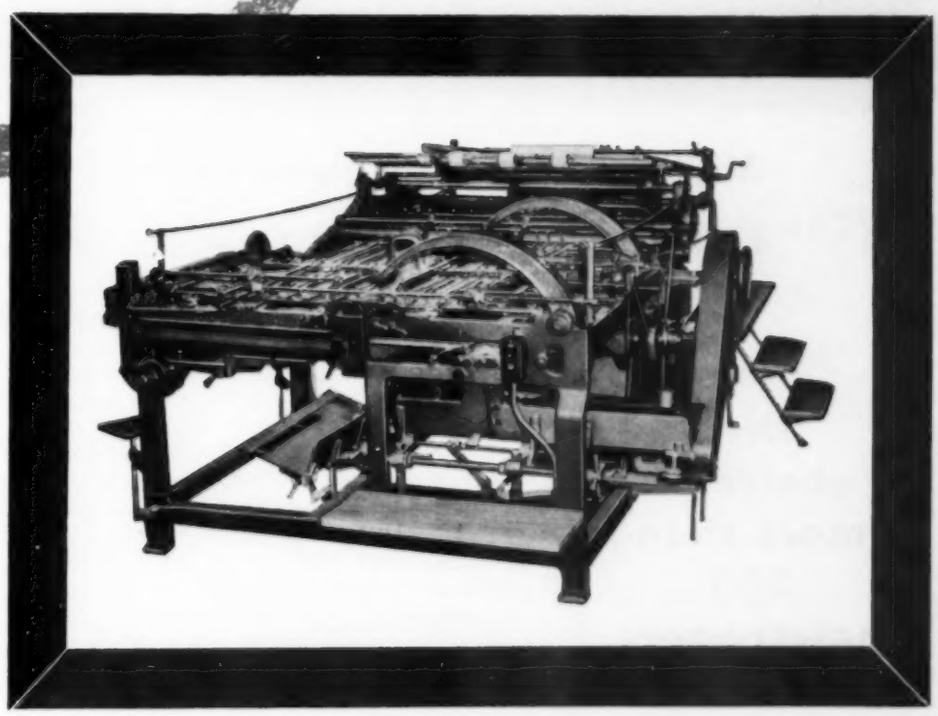
The Dexter Folder Company, for the first time since 1949, is planning to manufacture a limited number of Dexter No. 191-A Book and Job Folders.

The decision to offer the 191-A Jobber once more was based on the numerous inquiries received from the bindery industry as to the availability of this machine.

If operating conditions in your plant are such that a knife-type folder is best suited to your needs, this is a unique opportunity to secure a machine that has been known for many years as the standard of the industry.



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Maximum Sheet: 44 x 58".
Minimum Sheet: 19 x 25".
Standard Folding Arrangement: 4 right angles and Parallel 32. Parallel Sixteen Attachment available if desired. Equipped with Cross Continuous Feeder.

For detailed information contact your nearest Dexter representative.

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Bring them down with a SIGNODE Automatic Wire Tying Machine

first choice of more than 350 newspapers world-wide

If your daily press run is 50,000 or more, one or more Signode Automatic Wire Tying Machines can help you make *permanent* reductions in mailing-room operating costs.

You can effect reductions in labor costs, use your manpower most efficiently, meet all delivery deadlines, and assure your customers of tight, windproof bundles with added protection against pilferage.

Today, 350 newspapers all over the world are using Signode machines—many of them continuously for more than 30 years! In fact, the reputation of Signode's machines for dependability is so widely accepted, that over 30 newspapers with circulations in the area of 50,000 use only ONE machine.

Find out for yourself how Signode has eliminated the causes of tie-ups—how these heavier, sturdier wire tying machines can put your mailing-room cost savings on a permanent basis. Write:

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St. Paul Dispatch
Farm Aid Bill Faces Vote Today
Senate Unit OK Of Rigid Props Sighted
Drummer Boy To Be 109
Solons Fear Sharp Home Building Cut
Bus Compa
2 St. Paul Youths Held In Robbery
GOSS
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A New *Headliner*®

For Headline-making City

Daniel H. Ridder

The *St. Paul Dispatch-Pioneer Press* has to move fast to keep in step with the city it serves.

Oil capital of the great Northwest, state capital, mammoth packing headquarters, third largest trucking hub in the world, expanding inland waterway port, important rail center, thriving industrial area, mushrooming suburban communities — this is the rich St. Paul market.

Chosen by the National Municipal League as one of the nation's "All American" cities, St. Paul is surging ahead... and the *Dispatch-Pioneer Press* is matching its headline-making home town stride-for-stride.

The newspaper has ordered a six-unit Goss HEADLINER press.

"Keeping pace with St. Paul's growth calls for new, additional equipment," said Dan Ridder, *Dispatch-Pioneer Press* publisher, "and our new HEADLINER press will fill a vital need.

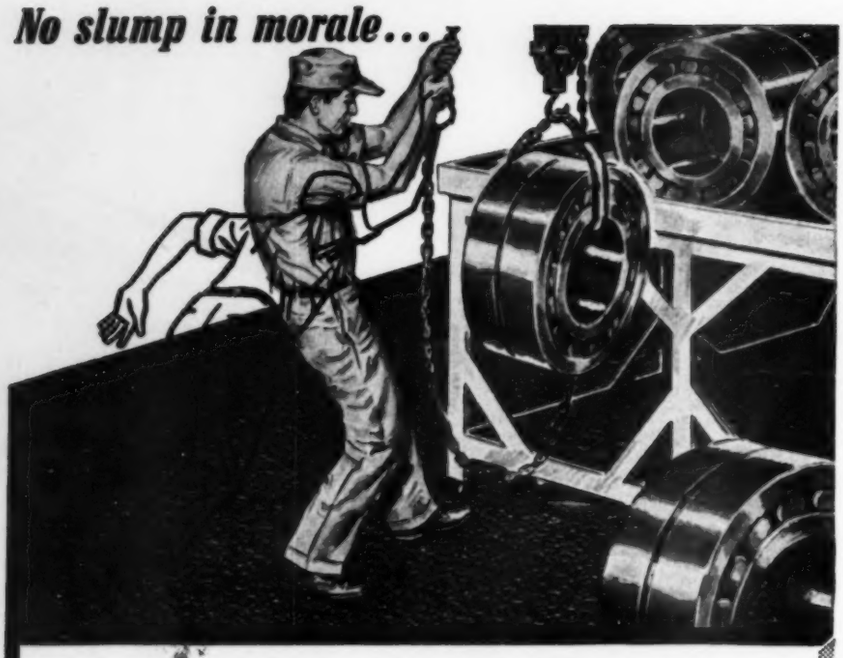
"Both circulation and ad linage are mounting at an ever-increasing rate. Furthermore, we expect they will continue to do so, inasmuch as estimates indicate that greater St. Paul will have a population approaching 500,000 within the next five years, with industrial expansion and home building during the same period totaling $500 million."

The HEADLINER installation will keep the *St. Paul Dispatch-Pioneer Press* out in front, with its six press units, one color half-deck, a double half-deck and a double delivery folder. It will have Goss REELS-TENSIONS-PASTERS, and the printing cylinders will have Goss *tension plate lockup*.

THE GOSS PRINTING PRESS CO.

5601 West 31st Street **Chicago 50, Illinois**

No slump in morale...



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. . . and management gets a triple advantage—improved morale, reduced accident rates and slashed insurance costs . . .

because—neither oil, water nor grease can reduce the powerful friction-grip action of ALGRIP's uniformly embedded abrasive particles. Easily fabricated ALGRIP—it can be overlaid or used as a complete flooring—is tough steel plate into which a grinding-wheel type abrasive has been rolled—*not coated*—to a controlled depth as an integral part of the steel. Wear and tear merely expose more abrasive.

Nationwide, ALGRIP is paying for itself in safety. Make a test installation in your worst slipping area.

A.W. ALGRIP ABRASIVE ROLLED STEEL FLOOR PLATE

ALGRIP—*approved for safety by Underwriters' Laboratories.*

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.

Please send A.W. ALGRIP Booklet AL-30

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Other products: A.W. SUPER-DIAMOND Rolled Steel Floor Plate—Plates—Sheets—Strip—(Alloy and Special Grades)

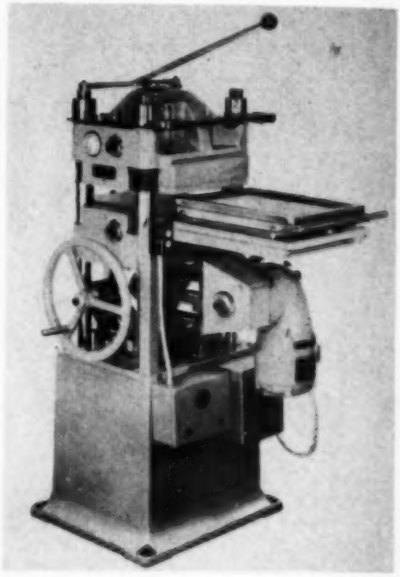
Equipment & Supplies

(Continued from Page 28)

Cefaly Experimental Co. Made of a milk-white plastic, the stick is machined and planed to tolerances of 0.001 in. The plastic is said to be flexible, odorless, nontoxic and flame-resistant. It is claimed that the plastic stick will not chip, split, or warp under operating conditions. Longer knife life is claimed. For further details, please mention PEE No. 92 in your request.

Rubber Platemaking Press

Push button operated Eva-Presses for making rubber plates are now in production at the American Evatype Corp. Embodied in the Eva-Press is



a pre-heat table, integral with the lower platen. A 1¼ in. thick surface ground solid steel ball bearing roller slide rests on the table which also becomes pre-heated causing buckling to be eliminated. The type forms, plastic matrices, etc., are carried on the slide causing these materials to also become pre-heated which is said to speed and simplify production. Another feature is a ¾ h.p. electric motor geared to develop pressures exceeding 100 T. Pressures are maintained by a toggle mechanism. A disengaging clutch is provided for those who prefer to hand operate the press. Two models with platen sizes of 13 in. by 18 in. or 12 in. by 15 in. are available. For further details, please mention PEE No. 94 in your request.

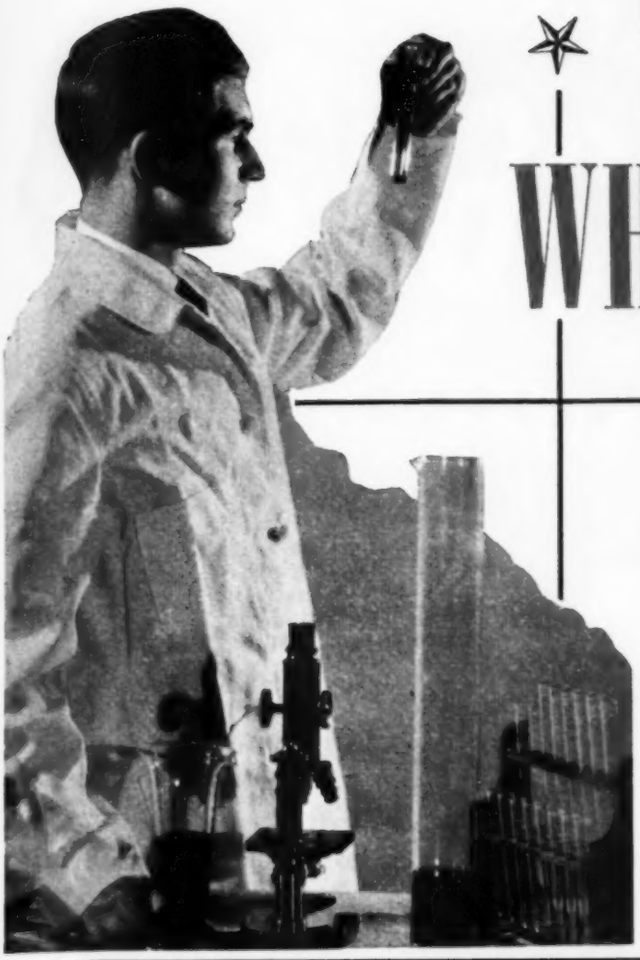
Kodak Color Film

Kodacolor Film, for a relatively inexpensive method of providing color prints when used in conjunction with Kodak's Type C Paper, has been announced by Eastman Kodak Co. The film can be used indoors with clear flash, or outdoors with natural light without compensating filters. The Kodacolor Film may be used to produce color negatives in which the color in the negative is complemen-

(*Continued on Page* 66)

IN THE LABS or ON THE PRESSES...they prove

THEY'VE GOT WHAT IT TAKES



CRAFTSMEN every day in many of America's leading lithographic and letterpress plants are finding you can't beat AMERICAN ROLLERS for downright dependability. Yes . . . they HAVE got what it takes because they're built that way . . . scrupulously built under especially rigid factory controls . . . for letterpress perfection and for incomparable lithography. In either type they'll prove to you, too, that there are no finer rollers made today! Produced in one of the country's most modern roller-making plants . . . where time-tested "know-how" gives them a special ability to perform superbly . . . to withstand the toughest grinds on high-speed presses without flinching . . . and to cut your costs, bolster your quality, make money for you. See for yourself. Order a set. Give them the works. And note the difference.

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TOTAL LINECASTING ERRORS reduced 36.727% by MATRIX CONTRAST SERVICE!

The installation of Matrix Contrast Service in a leading San Francisco daily newspaper plant reduced total linecasting errors — news, classified, and stock composition — 36.727%.

Matrix Contrast Corporation, the originator of contrast matrices in black and white *and* color, has proved its process over a quarter century. Brilliant white or colored pigments on a jet black background are used in the reference marks of mats in newspaper plants and job shops from coast to coast.

Completely audited figures of the composing room proofs of this prominent San Francisco daily — before and after the application of Matrix Contrast Service — are available for inspection. This application — as the many others coast to coast in newspaper plants and job shops — proves that Matrix Contrast Service saves time, money, and eyesight.

Write today for complete information.

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Kenro Vertical 18

Camera

By **JOHN WEST***
**Engineering Design Consultant, Kenro Graphics, Inc., Chatham, N. J.*

According to one famous industrial designer, the ideal example of good design is the egg. In it is incorporated the ultimate in utility and function with simplicity. Recently, we made a study of Graphic Arts process cameras—how they are made, how they are used, how often, by whom, and with what results. The outcome of this study determined our concept of the Kenro Vertical 18. We feel this is a compact precision camera for doing specialized jobs in photoengraving and offset plants with capacity to relieve the workload on big camera equipment.

In considering the subject, we reasoned: Why not design a vertical camera to save floor space? Our problem here was optical; lenses now in use would have required that we build a camera 7 ft. high. However, the help of the C. P. Goerz organization, one of the oldest manufacturers of process camera lenses, proved invaluable. Goerz developed a special lens for the Kenro camera. This flat field process lens covers over 11 in. by 17 in. at the same size, enlarges 300%, and reduces a 17 in. by 22 in. copy area to 33⅓ size, yet the height of the camera is held to 4 ft. The lens is standard equipment on all Kenro Vertical 18's. As optional equipment, an auxiliary lens is interchangeable. It is used for extending the range to 500% or reducing copy to 20%. Both lenses are factory calibrated to the camera indicators in percentage steps.

In this camera, copyboard, lens diaphragm, focusing and sizing controls, timer, film holder, per cent calibration charts and numerical setting indicators are centralized.

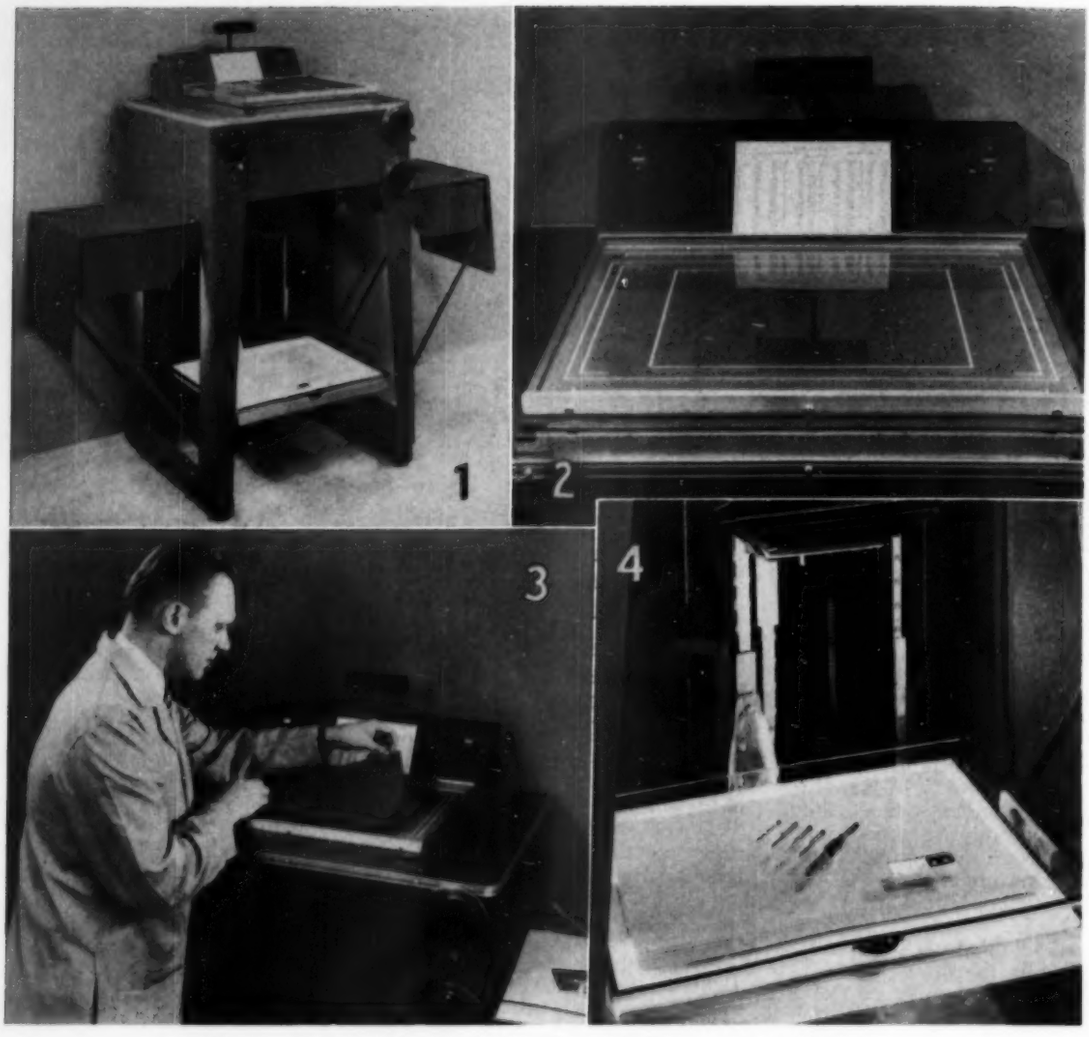
The new model Vertical 18 is substantially improved over the previous models. Changes in lighting permit exposure time to be nearly halved. Controls have been moved from the top to the front of the camera to make operation easy. Reset on the timer has been made automatic. Exposure cycle is actuated by a push button. Through the addition of micro dials, setting the camera to any frequently used size can be accomplished faster and with greater precision.

Dials, numerical indicators and charts have been consolidated on a sloping panel at eye level. The top of the camera is illuminated by a shaded tubular red safelight which facilitates operation in a darkroom. The film holder remains at the same 48 in. height and is

Two Groups Visit RIT— About 40 Buffalonians, members of the Printing Industry Assoc. of Western New York, visited Rochester (N.Y.) Institute of Technology, in February. They toured the Department of Printing and the Graphic Arts Research Dept. under the guidance of RIT instructors led by Byron G. Culver. Dr. Mark Ellingson, RIT president, discussed the Graphic Arts program of education, research and information. Ellingson said the printing industry, doing business worth $10 billion a year, needs to do more research. Warren L. Rhodes, head of the Graphic Arts Research Dept., showed and explained a number of instruments and devices used in research projects. Some of them, he emphasizes, are suitable for use in printing plants. He described a new industrial group plan whereby the Research Dept. and printers can collaborate.

During a visit of two Graphic Arts groups to Rochester (N. Y.) Institute of Technology, investigation into new methods was made. In this picture, Richard Johnson, NEA Service, New York, N. Y., shows a plate etched in an Acme One-Bite Etcher to George W. Helm, jr., Westchester County Publishers (center) and James H. Righter, Buffalo (N. Y.) Evening News (right).

About 120 members of the New York State Publishers Assoc. also visited the Rochester Institute of Technology in February to look over new equipment that may be applicable to newspaper production. Apparatus on display included the Fotosetter, the ProType, Acme One-Bite Etcher, Listomatic Camera and Justowriter machines. The visitors were shown a new system that may be useful in preparation of classified ad copy. In includes Justowriter equipment of the Commercial Controls Corp., an IBM card sorter, and the new Kodak Listomatic Camera distributed by Commercial Controls. The Justowriter equipment handles composition, turning out IBM cards for individual ads. The IBM machine sorts the cards into their classes. Then the cards are fed into the Listomatic Camera to be photographed at the rate of 240 a min. The film is stripped on the flat to expose a plate, with entries in the same order as the cards.



Views Showing Features of Kenro Vertical

1.—The Kenro Vertical 18 Camera takes up less floor space than two letter size filing cabinets. Camera height is 4 ft. Handles film up to 14 in. by 18 in. Instrument is portable—can be used in or out of darkroom. Lamp housings at left and right prevent room glare and can be used for temporary storage of film and copy. All controls are located in front. At left is the automatic pushbutton operated reset timer. Immediately underneath are pilot light and two switches—one for timed or manual illumination; the second switch cotrols circuits for line and Autoscreen exposures and the other for Magenta halftone negatives. At right, two handwheels are used for controlling lens and copyboard movement. A special back is available to accommodate a Xerox plate.

2.—At rear of scribed ground glass a panel contains counters and microdials used in conjunction with chart (center) for reducing or enlarging copy to required size. Lamp may be fitted with red bulb for darkroom use.

3.—Vertical construction permits loading film like this. secured by means of a spring loaded pressure back, or a Operator is laying film on Magenta screen. Contact is vacuum back may be applied to the camera.

4.—The Kenro Vertical 18 Camera can be used to make direct product halftone negatives, using either Magenta or Autoscreen. Gray scale at lower right is helpful in achieving proper negative density by visual techniques. The optically perfect glass copyholder cover is mounted on a compound hinge when photographing thick copy such as open books.

equipped with stay flat and pressure backs. A vacuum back is also available.

Form coverage is indicated by the following table:

Form sizes (Inches)	Forms covered (in 1 Shot)
5½x8½	4
7x8½	2
7½x8½	2
8½x10	2
8½x11	2
11x17	1
17x22	½

One of the qualities most often requested during our study was simplicity of operation. For the controls of the operating mechanism for the lens and the copyboard, a simple precision threadscrew is used. Twin counters, the basis for the automatic size focus counter system, were placed above the lightweight film holder.

To simplify accurate focusing and re-setting, twin counters are coordinated with the two hand wheels which directly drive the lens board and copyboard. The micro dials are verniered with the twin counters for precision re-settings. This system permits the operator to automatically size and focus by referring to the calibrated counter charts and adjusting to the indicated numbers on the counters. Exposure is automatic and is obtained by pressing a button. The objective of this design was to put everything the operator scans in front of him and everything he touches within reach.

The entire frame of the unit is a jig welded rigid base of cold drawn mechanical tubing. The aluminum lens board and copyboard castings ride on special ball bearing assemblies. This prevents cocking, binding and tilting. The entire assembly is optically aligned at the factory.

In the camera may be used 12 in. by 18 in., 14 in. by 17 in., or smaller film. The four-corner lighting system reduces opaquing require-

(*Continued on Page* 95)

Should You Shim Linecasting Molds?

By THEODORE (TED) GARDINER*
**Head Machinist, Indianapolis (Ind.) Newspapers, Inc.*

To obtain accurate trim of slugs from each mold of a linecasting machine it is necessary that all molds in the mold disk be in uniform position with respect to the constant surface of the mold. To obtain uniformity on machines which have been in use for some time, shimming often is resorted to so as to align the constant side of the slug with the left hand trimming knife.

There is nothing new about shimming molds. Machinists have been building up molds, no doubt, as far back as any of us can remember. But don't shim unless you must.

The reason for shimming molds is that a mold disk may be sprung or warped through abuse; mold pocket seats may have been filed by some chap who wasn't familiar with proper mechanical procedure, and again, the molds themselves may have been filed or ground at the seating surfaces. It isn't always feasible to buy a new disk and one or more molds to replace the defective ones.

Shimming can be used in two ways: (1) To obtain type high slugs, and (2) To obtain uniformity of trim of the constant (or left hand) side trimming knife. It is sometimes a difficult task to line up a disk full of molds to permit the left hand knife to trim the top part (draw) of slugs alike.

Seating Molds Properly

First, in aligning molds, each mold must be removed from the disk and thoroughly cleaned, inspected and replaced in succession before another mold is removed from the disk. While the mold is removed from the disk the mold seat on the disk must also be thoroughly cleaned because it is important that when the mold is replaced in the disk that it be properly seated in the mold disk pocket. Returning a mold to the pocket of the disk and *knowing* that it is seated properly can be accomplished by bringing up the front body screws on the Linotype until they are just snug—not tight—then turn the cap screws down, forcing the mold to its seat. Then tighten up the front body screws. In the case of the Intertype, the procedure is the same except that the mold cap clamping bolts are employed instead of the screws. This being completed, the next mold is removed and the operation repeated until all molds have been cleaned and replaced.

Mold Disk End Play

Next, the mold disk and its stud must be checked for front to back looseness or wear. This must be taken into consideration as 0.001 in. or 0.002 in. wear in the disk and stud from front to back can make a lot of difference in the trimming of a slug to type high. In case of too much wear in the stud, it will be necessary to eliminate as much looseness front to back as possible. If the machine is an Intertype, remove the back nut on the mold disk stud, after which enough of the nut bearing surface on the stud can be turned off in a lathe to eliminate end play.

A message to printers in U. S. and Canada has been announced. Pretty Sally Craig and Norma Small prepare to mail out the rules and regulations of the 1956 Printing Industry of America, Inc., Printers' and Lithographers' Self-Advertising Exhibition and Awards. Copies will be in the hands of printers in the United States and Canada shortly. Deadline for this year's entries is September 28. Winners will be announced October 28 to November 1 at the Statler Hotel, Los Angeles, Calif.

You can correct slight end play in the stud by using a new type of mold disk stud nut (back) which Intertype recently placed at the trade's disposal. It is a nut which has been redesigned as an assembly of nut and an inserted laminated brass washer. The laminations are 0.002 in. thick. By peeling off laminations as necessary, the end play of the stud may be minimized.

On the Linotype with water-cooled disk, make sure that all mold disk plate screws are tight. If they are not, the entire assembly will be insecure and cause the height measurement of the slug to be inaccurate.

After the mold disk plate screws have been tightened and there still is end play in the disk (front to back) it will be necessary to have the front surface of the mold disk stud turned down in a lathe until the wear has been minimized.

An even better plan is to employ the method developed by Sol Cantor, president, The Composing Room, New York, N. Y. (See article pp. 71-72, June 1953, *Printing Equipment Engineer*). Cantor cuts a recess 0.010 in. deep in the back surface of the Linotype mold disk stud plate. This recess is only of sufficient diameter so it will just clear the front edge of the stud. Usually, the plate is 0.208 in. thick. Thus if the thickness of the plate is reduced 0.010 in. in the recess, the thickness through the recess will be 0.198 in. Paper or brass shims, 0.0015 in. thick, are cut to fit into the recess with the center part cut out to make the shim look like a big washer, the hole in the washer being of sufficient diameter to clear the stud. Use as many shim rings which you have cut out as are needed to provide a free running but playless fit between Linotype disk and bearing.

Check the Mold Disk Guides

Before we leave the mold disk, let me remind you of an important adjustment that is probably overlooked more often than any other adjustment. This consists of ad-

justment of the upper and lower mold disk guides at the left of the disk. The main purpose of these guides is to hold the disk steady and not allow it to move forward while the bottom of the slug is being trimmed.

Worn Studs and Blocks

Now we come to the problem of worn mold disk locking studs and stud blocks. Each mold disk stud must be checked for looseness and wear. In case of worn studs and blocks the only remedy, of course, is to replace the complete set. This is another one of those tasks where too much care cannot be taken because one worn stud or block will permit one or more molds to be positioned out of line during casting or ejecting positions.

In applying new studs and stud blocks, care must be taken to see that each mold disk stud is properly seated and that the stud keeper holds the stud firmly in place. Very often a machinist hurries too much while replacing studs. A stud may not seat properly and remains in a tilted position. When this happens, a slight bind of stud and bushing occurs. This causes undue wear. Misalignment of the mold in use in relation to the other molds also occurs.

Lower Guide Support Screw

It is not our intention to present complete information regarding the replacement of studs and stud blocks. But don't overlook the proper adjustment of the mold disk lower guide support screw to obtain mold ejector blade parallelism, as well as ejector blade clearance with the constant side of the mold. Instructions for making these adjustments particularly on older machines can be obtained from manufacturers of the machines.

Now we are ready to cast a line of matrices, 30 picas long, from each mold. Upon close examination of each slug we can determine which one of the molds needs to be shimmed on an old machine.

Aligning Molds with Left Trimming Knife

First, find out which mold is the highest in the disk, then the left hand knife is set to accurately trim the slug from this mold. With reference to molds having a smooth or ribless surface on the constant side, I would like to explain that the left hand knife is not supposed to trim the slug body. I might add that the right hand trimming knife should be set to trim the slug to its proper thickness also before starting to shim the other mold or molds for position.

There are various methods of shimming molds. Some machinists use paper. Others make their shims out of different thicknesses of shim metal. Some drill small holes in the mold seat of the disk, tap out and bottom the screws to adjust their molds to proper height. After the screw has been bottomed, the head is cut off and the screw dressed off to proper height. (This idea, I like.) Others drill holes and drive in metal plugs, which they later dress down to obtain the desired height.

The Intertype mold disk affords an easy means for drilling and tapping because the mold seats project outside the disk. On the Linotype it is possible to drill two holes in the mold pocket seat centrally of the left and right mold cap clamping screws, being careful not to damage the clamping screw threads in the disk rim while drilling.

I have seen spots of solder used. This isn't such a bad method—at least it is better than paper. If paper is used and the mold has to be removed later for some reason, the paper shim or shims might be lost and the purpose defeated.

Metal shims are a little better. A machinist is not so apt to brush

(*Continued on Page* 95)

Wood Master Flong— Its Properties Explained

The one-piece Wood Master Flong for stereotype roller and direct pressure molding has been developed by Wood Flong Corp. Just at the moment, the mat is available to only a few newspapers because of limited manufacturing equipment capacity. It is expected, however, that the mat will be in expanded production in several months. The mat will be furnished in shrinkages from ½ in. to 1 1/16 in. It has been announced that 22 plate casts have been made from the mat without deterioration and that an indefinite number of casts can be readily obtained from one mat. After the Master Flong has been molded and formed, it is ready to be placed in the curved plate casting box without further hand work other than trimming outside edges to fit the casting box rings.

In roller molding, a ⅛ in. thick fibre board is the only "blanket" placed over the mat. This has been explained by saying that the Master Flong is a spongy, homogeneous mat and molding pressure required to get full depth drive is not as severe as with a standard mat. Yet, the suggested molding pressure is sufficient to allow the especially constructed Master Flong to be cast in a standard plate casting box.

Field development of the Wood Master Flong has been conducted by Charles H. Scherb, Mid-West representative of Wood Flong Corporation, who has been on the job with this firm for many years.

Upon inspection of a number of processed mats, it appears that full bowl depth in letter characters has been obtained. Also, upon inspection of a printed newspaper, leader lines do not punch into the mat to the extent that they will penetrate through to the opposite side of the printed newspaper page. Maximum molding depth, however, seems to have been obtained because molded impression of spaceband and quad matrix marks from the blank portions of linecomposing machine slugs are fully visible in the mat.

While all technical details are not presently available, Scherb discussed some of the properties of the Wood Master Flong: (1) Hand packing is eliminated; (2) Depth of impression is approx. 0.035 in.; conventional photoengravings and Fairchild Scan-A-Graver cuts reproduce equally as well, and sometimes better, than when inset plates are mounted directly in the stereotype plate (because of too high mounting in the stereotype plate which causes highlights to print muddy); (3) Eliminates penciling out of high router bit marks along shoulders and edges of irregular shaped plastic, electrotype and engraved pattern plates; (4) With the recommended molding medium, any roller can be adjusted for the same distance from bed to bottom of cylinder; (5) Because greater molding depth and the more uniform printing surface obtainable, and since little or no depth is lost from mold to press, longer press runs can be secured; (6) Hard edges in type and photoengravings along the edge of the form are eliminated; (7) With the Master Flong it is not necessary to make changes in Automatic, Pony or Hand Junior casting boxes except where bolster strips have not been cut down to accommodate the mat packing at top and bottom of the page; (8) When bolster strips have been altered to conform to the Master Flong, then packing the mat at top and bottom is unnecessary; (9) Not as much depth is obtained in the open (non-printing) areas as in a conventional mat. But with careful ink roller setting and a taut impression cylinder blanket kept tight, the pressman can secure satisfactory printing due to the greater depth of the printing image and the more uniform printing surface of the plate itself; (10) Once the stereotype and the pressroom executives have discussed properties of the plate no change should be made either in the plate making or press adjustment.

Mid-Atlantic Conference

Better R.o.p. Color
Engraving Reports
Curtis Color System
Report on Scan-A-Sizer
Composing Machine Maintenance

By STAFF WRITERS

The only threat to healthy economic growth of our nation's newspapers is failure to keep up with modern production methods, said Theodore A. Serrill at the 1956 Mid-Atlantic Newspaper Mechanical Conference in Baltimore, Md. Serrill, as general manager of the Pennsylvania Newspaper Publishers' Assoc., was also director of the conference which was held Mar. 8-10, in the Lord Baltimore Hotel.

The conference is sponsored jointly by the PNPA and the New Jersey Press Assoc. in cooperation with the Maryland Press Assoc. Approx. 350 newspaper executives from Pennsylvania, New Jersey, Maryland, West Virginia, Delaware, and District of Columbia attended the meeting.

Conference co-chairmen were Harold C. Berg, mechanical superintendent, Wilmington (Del.) *News-Journal*, and Neal E. Dyer, business manager, Camden (N.J.) *Courier-Post*.

Key to Better R.o.p. Color

Standardization is the key to better R.o.p. color, Richard E. Lewis, manager, ANPA mechanical department, told the conference. Teamwork, important in all newspaper work, becomes mandatory in producing color work. Lewis mentioned four parts to the ANPA - AAAA recommended standards for newspaper color: (1) *Plant Procedures for R.o.p. Color Printing*, which has been published; (2) *Recommended Ink Standards for R.o.p. Color Printing*, which also has been published; (3) *Proper Preparation of Copy, Art and Photography*, which is in final stages of preparation; and (4) *Preparation of Engraving and Duplicating Material*, which is expected to be available before the end of 1956.

Lewis then outlined briefly some of the requirements of color work. Unless the artist's rendering is strong enough and the highlights in details are accentuated, a disappointing reproduction will result, he said. For instance, a light tone, when surrounded by other light tones of the same density, will run together and definition and detail will be lost. Art work should be prepared in one unit with all material assembled intact, Lewis continued. Heavy color on lettering above or below illustration requires special attention. The ink requirements of heavy lettering tend to destroy the color balance of the illustration unless produced in full color process in balance with the illustration. Avoid vignettes whenever possible. Avoid small color swatches. Minimum size should be at least 5/8 in. by 1 in. and arranged so that full advantage can be taken of contrasting colors.

Lewis also explained the time saving techniques for producing full color with three plates. In this process, all colors, including black, are reproduced through combinations of yellow, red and blue only.

Etching line engravings to a minimum depth of 0.020 in. was recommended. Rout 3/16 in. margin around all subject matter to a minimum depth of 0.040 in. and a maximum depth of 0.045 in. Retain all inside dead metal with the exception of a 3/16 in. wide margin around subject matter and mark clearly as dead metal, preferably with color indication on each plate, Lewis said. This dead metal will be routed out on the stereotype plate to a minimum depth of 0.040 in. Color proofs should carry 90% tone color bars across entire width of color proof to indicate the amount of each color required. Engravers' register marks should be located inside the subject matter at points as far apart as possible, preferably at each extreme inside corner. When register marks cannot be located inside the subject matter, Lewis said, it is advisable to locate register marks at each extreme outside corner and also at top and bottom outside centers. In stereotype makeready, edges of vignettes, blockouts in highlights, and small unprotected printing areas should be held back by makeready applied to the back of the stereotype mat after molding. These areas must also be protected during the plate shaving operation.

It has been demonstrated, Lewis continued, that pinpoint highlight dots will wear and distort under printing pressure on runs over 5000 impressions if not nickeled.

At the 1956 Mid-Atlantic Newspaper Mechanical Conference in Baltimore, Md., were (seated left to right) Harold C. Berg, mechanical superintendent, Wilmington (Del.) *News-Journal*, and co-chairman of the conference; and Neal E. Dyer, business manager, Camden (N. J.) *Courier-Post*, and co-chairman of the conference; (standing left to right) William C. Otter, vice president, Imperial Type Metal Co.; and Theodore A. Serrill, general manager, Pennsylvania Newspaper Publishers' Assoc., and conference director.

Aids to R.o.p. Color

Following Lewis' talk, Joseph P. Dorr, manager, Capital Tool & Mfg. Co., described operation and use of the Capco Portable Ink Fountain. Designed to permit use of color in its most economical form, the Capco portable fountain is now being used in more than 200 newspapers, Dorr said. One of the fountains was on display at the conference.

Clarence Tiefert, assistant to sales manager, Wood Newspaper Machinery Corp., discussed the Wood Portable Ink Fountain and showed slides of the unit attached to various press units. Besides the ink fountain, Wood displayed models of a Wood Electrotab Autopaster and the new Heavy Duty Pony Autoplate.

Roy W. Prince, technical research

director, American Newspaper Publishers' Assoc., told the conference of recent experiences with Mat Pak.

Training Program Report

Cyrus MacKinnon, Institute of Newspaper Operations, Chicago, gave a talk on the operation of INO training programs. These are being carried on, he said, in pressrooms with from 4 to 300 employees. Groups being trained include entire crews, apprentice groups, or apprentice groups with journeymen "observers." The press programs are designed for teaching by local instructors after materials have been fitted by INO to equipment, procedures and amount of experience of men to be trained. Seminars on press and stereo operations are scheduled for early April. Stereo manuals and training guides also are now in use.

Among the approx. 350 newspaper executives attending the 1956 Mid-Atlantic Newspaper Mechanical Conference in Baltimore, Md., were (left to right) Peter Rudegeair, mechanical superintendent, Lebanon (Pa.) *Daily News;* Linwood Cridlin, engraving superintendent, Baltimore (Md.) *News-Post;* Ralph Cranmer, business manager, *Grit,* Williamsport, Pa.; and Harry Burris, mailroom superintendent, Harrisburg (Pa.) *Patriot-News.*

Developments in Engraving

After C. Harold Larsson, branch manager, Chemco Photoproducts Co., and Frank Bonner, manager, Technical Service Division, Atlantic Zinc Works, Inc., had spoken, Lloyd Werley, night engraving room foreman of the Allentown (Pa.) *Call-Chronicle,* gave a progress report.

Werley spoke on his paper's experiences with the Acme One Bite Etcher. Use of the Acme machine commenced last summer, he said. Since paper base film is used, at first it was difficult to get a small, sharp highlight dot. In the Acme Etcher flexibility of the re-etching method is lost. As we know it in the conventional method, to try to re-etch can result in severe undercutting rendering the plate unsuitable for matting in the stereotype department, Werley continued.

Much of the difficulty experienced with the Acme Etcher was a matter of temperature of the etchant, he said. Plates have varied in depth as much as 0.035 in., and some plates would not etch at all. Although the etchant used in the Acme Etcher will generate its own heat after it starts etching, it must be of a certain temperature before it will start to etch properly, it was found. Now hot water is allowed to heat the etching chamber before using. Generally, a 95 deg. starting temperature will give results but a 110 deg. temperature at the start in 2 min. will generate up to 120 deg. to 125 deg. That temperature with a pressure of 25 lbs. will give ideal etching conditions and in 12 min. will etch to 0.040 in.

As the plate rack in this machine is stationary, Werley said the practice is to rotate the plate every 4 min. To remove salts from line plates a 10 part water to 1 part nitric acid solution is used, followed by brisk, dry brushing. Although this does give a very minor undercut, the plate will mat cleanly, said Werley.

Curtis R.o.p. Color System

An analytical and progressive discussion on *R.o.p. Color Simplified* was presented by Dr. Thomas S. Curtis before the recent Mid-Atlantic Mechanical Conference, Baltimore, Friday, March 9. Dr. Curtis is president of Curtis Laboratories, Inc., Los Angeles. The objective of his talk was to suggest means for reducing production cost of r.o.p. color while maintaining or improving quality. The speaker's plan covered all operations from making the photograph to delivery of the plates to the stereotype department.

In the Curtis plan, both color film and the one-shot color camera are used. Both can be used to produce r.o.p. color at low cost if properly integrated in a standardized production system.

Part of the program consists of personnel training and how to break down fear of r.o.p. color by building confidence.

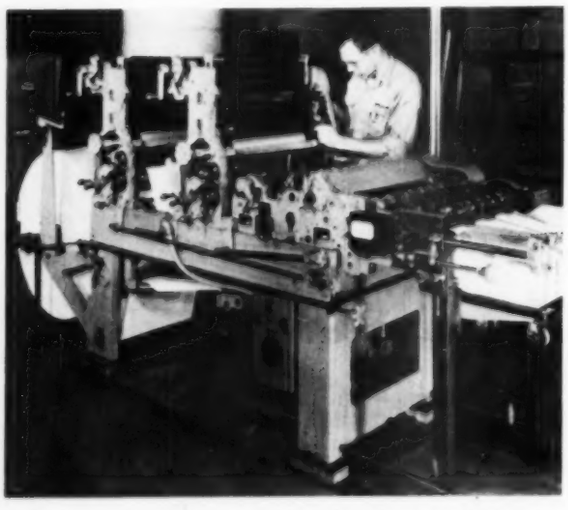
In the planning and organization stage the speaker explained the distinction between photography and photomechanical reproduction, and where to draw the line to relieve or avoid jurisdictional friction and professional jealousy.

In the photographic process, it begins with taking the picture and ends when the photolab technician hands the engraver a set of balanced, color corrected black and white reproduction positive prints on stabilized paper base, or the copy may be diapositives on film or glass plate base.

The photomechanical process begins when the engraver makes screen negatives from the continuous tone, color corrected black and white separation prints or positives. Here is where the engraver's responsibility starts. His job is to reproduce the color corrected copy.

On smaller papers, the photogra-

(*Continued on Page* 91)



ATF Green Hornet—A web-fed commercial offset job press called the ATF Green Hornet is now in production at American Type Founders. The press is said to be capable of producing up to 25,000 i.p.h. of 11 in. by 17 in. sheets, two colors on one side or one color on each side. Paper is fed from rolls of 40 in. max. diam. and from 8 in. to 17½ in. wide. The printed products delivered are in cut sheets 11½ in. long and as wide as the web used.

The ATF Green Hornet, it is explained, is designed to print commercial jobs on any uncoated stock suitable for offset, from lightweight bond up to 80 lb. offset. Slightly heavier stocks can be printed when using it as a two color, one side press, since it is not necessary to thread the web around the turning bars between the two offset printing units.

Inking and dampening systems are the same as on sheet-fed presses. Register is adjustable while running, both sideways and circumferentially. There is a one man operated roll lift for reloading. A non-stop delivery system permits unloading the delivery while the press continues to run.

The ATF Green Hornet is equipped with a perforating cylinder, which permits preforating or slitting lengthwise of the web. It is stated that when running an 8½ in. by 11 in. job, for example, the form two-up can be run, slit in the center of the web, and as many as 50,000 sheets printed in two colors (or one color on each side) can be secured in one hour's press time. For further details, please mention PEE No. 102 in your request.

Silicone Solution Fights Oxidation

By EMIL BENDOW*

**Sales Manager, Star Parts, Inc.*

A considerable number of composing room executives, machinists and operators from time to time have asked us to explain the silicone solutions for use in preventing metal adhesions and/or oxidation of linecomposing machine parts with which molten metal comes in contact. The problem in all cases, of course, is to keep metal from accumulating on back and front of molds, vise jaws and spaceband sleeves. There are a number of silicone preparations on the market.

In trying to explain the properties of silicones, we will do so without getting involved in chemistry. After all, our main interest is regarding behavior of the antioxidant.

Silicones originally were developed by Dow Chemical Co. from sand, (silicon), carbon and oxygen for motor field and armature windings. They are also used in compounding many types of protective products such as automobile and furniture polishes. Among other virtues, they are highly resistant to heat and will not break down under 800 deg. F. Chemically, the silicones are strictly neutral, and according to the Dow Chemical Co. will not attack steel or any other metals in either cold or heat. Silicones are semi-inorganic compounds and as we have stated previously their resistance to heat and chemicals is claimed to be unique.

The main objective in using the product on linecomposing machines is to interpose an insulating film continuously between mold and vise jaws and between mold and pot crucible mouthpiece. This is accomplished by charging the front and back mold wiper felts with the solution in moderation. It is important to note that silicones are not lubricants, although in their primary state they have an oily feeling.

This raises the question regarding what effect the silicones could have on the side walls of matrices. It is well known that hairlines can appear between letter characters on the slug. This, of course, is caused by breaking down of the matrix side walls due, primarily, to improper polishing of spacebands or neglect of this chore at proper intervals. Metal actually building up and adhering to the casting point on the spaceband sleeve will naturally impinge on the side wall of the matrix, and cause it to wear away. In the initial stages of this breakdown, a false wall of graphite and dust compacted by moisture generally builds up, and is gradually replaced by a false side wall of the lead alloy of the pot metal. In the first stages, therefore, any excess moisture will tend to wash away the compacted material, although it will not affect the metal side wall which has been built up in the second stage. In the sili-

COLD COMPOSITION COMMITTEE MET RECENTLY IN NEW YORK, N. Y.—*Rear (standing left to right):* Jacques Cattell, Science Press, Lancaster, Pa.; W. W. Garth, jr., Graphic Arts Research Foundation, Inc., Cambridge, Mass.; Alan S. Holliday, Craftsmen, Inc., Kutztown, Pa.; Charles T. Waters, Intl. Business Machines Corp., Endicott, N. Y.; S. F. Chernoble, The Comet Press, Inc., New York, N. Y.; Joseph Richardson, Ralph C. Coxhead Corp., Newark, N. J.

***Front (seated left to right):* C. M. Flint, Chas. T. Main, Inc., Boston and chairman of Cold Composition Committee; Harold Plaut, representing Earl Godshall, Intertype Corporation, Brooklyn, N. Y.; Louis Rossetto, Mergenthaler Linotype Co., Brooklyn, N. Y.; Axel Hansen, representing James Thomson, Commercial Controls Corp., Rochester, N. Y.; George J. Sausele, American Type Founders, Inc., Elizabeth, N. J., and Morton Friedman, representing Allan Friedman, Filmotype Corporation, Chicago.**

R. & E. Council's Chicago Meeting

Phototypesetting equipment that is expected to be used in composition work for large directories and listings will be demonstrated in Chicago in May. Demonstrations will take place at the annual meeting of the Research and Engineering Council, Edgewater Beach Hotel, May 9, 10 and 11. Presiding chairman is Carl Dunnagan, chairman of the board and treasurer of Chicago's Inland Press.

Dunnagan has announced that two new machines out of eight to be exhibited at the meeting will be demonstrated. An entire afternoon and evening will be devoted to *Cold Composition*, with C. M. (Larry) Flint of Chas. T. Main, Inc., as chairman. In addition to explaining and demonstrating all types of phototypesetting equipment, Flint will review each method and show how each is applicable in making plates for letterpress, offset and gravure printing.

Printers who are using phototypesetting equipment, as well as manufacturers' representatives, will be present to answer questions concerning methods and equipment.

Chairman Dunnagan believes many members of the industry will want to attend the R&EC meeting. He has emphasized that the meeting is not restricted to members of the Council. Further information and reservations may be obtained by writing Robert E. Rossell, managing director, Research and Engineering Council, Inc., 719 Fifteenth St., N. W., Washington 5, D.C.

Welcoming speaker at the meeting will be Col. John Slezak, chairman of the board, Kable Printing Co., who will discuss how to make the best use of human resources in everyday operations.

Progress reports on pertinent research projects from industry and the Council will be given in conjunction with the program. Exhibits depicting contributions to the Graphic Arts industry through research and engineering work by member plants will be on display.

Among the Chicago area plants and laboratories scheduled for visits during the meeting are the A. B. Dick Co., Armour Research Foundation, Rand McNally and Co., W. F. Hall Printing Co., Meyercord Company, Miehle Printing Press and Mfg. Co., and the Lithographic Technical Foundation.

cone solution handled by Star Parts, Inc., the vehicle is aqueous.

We suggest that the solution be used in moderation according to instructions, and especially in the case of the spacebands, the sleeves be treated with only a moistening spot at the casting point. The same light film should be applied to the vise jaws and a moderate supply fed to the wiper felts, preferably from the underside.

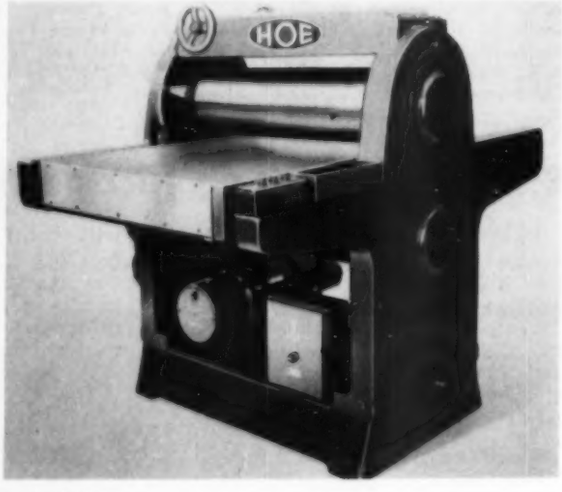
As a final caution, we emphasize that silicones are not a lubricant and do not take the place of graphite for lubrication of the spacebands or any other part of the machine.

Bernard Taymans Named PIA's General Manager

The Executive Committee of Printing Industry of America, Inc. has unanimously approved the appointment of Bernard J. Taymans as the new general manager of PIA. On February 25 PIA Pres. J. R. Jackman and Reuel Harmon, vice president, representing the officers, Walter McArdle, president of UES, and Elmer Pusey, chairman of the Finance Committee, met in Washington, D. C. and concluded arrangements for Taymans to take over his new post March 1, 1956. Taymans' appointment and acceptance makes available to PIA 15 years of trade association experience in the industry.

Helpful Type Hint

Cecil H. Wrightson, Inc., Boston, Mass., passed along this tip: "In the use of machine set type," said an experienced pressman, "I find a saving in makeready time by lightly rubbing the face of the type before putting on press. I lock up the form, scrape and brush back thoroughly, unlock, gently plane form down, relock the form, then lightly scour the face with a flat electrotyper's eraser. Sounds as though it takes a lot of time, but actually it doesn't, I know—it does make good type print even better."



Hoe Stereo Mat Roller — Most of the larger North American newspapers are now using high shrinkage stereotype mats. For the best molding results it has become necessary to use matrix rollers with free-wheeling or friction-drive top roller. R. Hoe & Co., Inc., offers the industry the Monarch III Matrix Roller. It is designed primarily for heavy duty service in large and small newspaper plants. For the strenuous operating schedules common in syndicate and commercial shops, Hoe states, the larger Monarch II Matrix Roller is still recommended.

Monarch III is sturdy in construction of all stressed parts to assure minimum deflecton under high work loads. The cylinders are 10 in. diam., made of solid forged steel and ground and polished on their own journals.

The rigid one-piece side frames, are mounted on a heavy cast iron bed plate. The table is heavily constructed and reinforced at both ends with full size buffer plates.

The upper cylinder is free running. When using the right type of molding blankets and cuts mounted not more than 0.002 in. over type high, molds of unsurpassed dimensional accuracy, *i.e.*, without stretch or tuck-in, can be produced, it is also stated.

Rubber blocks mounted on one side of the table top engage the upper cylinder just prior to contact with the molding blankets to prevent shifting of the form.

Worm and worm-drive operate in oil-tight housings. The upper and lower cylinders are equipped with large SKF self-aligning spherical roller bearings.

Pressure is adjusted by raising or lowering the upper cylinder by means of hand wheels and scales graduated in thousandths of an inch located at both ends of the machine.

The stroke of the table is adjustable to suit multiple molding of jobs of varying sizes.

The Monarch III is designed for single speed operation but, at customer's option, it can be arranged for a speed of either 10 or 20 sec.

A 3 h.p. ball bearing reduction motor with built-in multiple disk brake, drives the machine by silent chain. Motor and starter are mounted on the bed plate. Push button stations are located at operator's finger tips, at both ends of the machine. Fluorescent lighting is provided under the cross brace at both sides of the table.

If the machine is to be used for molding from pattern plates, a cast iron precision molding slab, 23 by 26 by ⅞ in. thick, ground and polished on both sides, is available.

For further details, please mention PEE No. 95 in your request.

New York State Conference Held

The third annual New York State Capital District Mechanical Conference was held at the Sheraton-Ten Eyck Hotel, Albany, N. Y., on Saturday and Sunday, Jan. 28-29, 1956. Approx. 150 newspaper mechanical executives attended the sessions devoted to discussion of printing production problems.

Harry Shaughnessy, pressroom superintendent, Williams Press, Menands, N. Y., was conference president; Floyd Laurenty, mechanical superintendent, Schenectady (N.Y.) *Union-Star*, was conference director. Panelists for the conference included Charles L. Banker, press-stereo superintendent, Poughkeepsie (N.Y.) *New Yorker;* Leonard (Pete) Harrell, pressroom superintendent, Albany (N.Y.) *Times-Union;* Granville Hutchinson, mechanical superintendent, Troy Record Newspapers; Francis Jardieu, stereotype foreman, and George Leyh, head machinist, both of the Utica (N.Y.) *Observer-Dispatch;* and William Spaulding, engraving room superintendent, *Knickerbocker News*, Albany, N.Y.

Newly elected officers include: President, Bernard R. Daley, mechanical superintendent, Glens Falls Post Co.; vice president, Granville Hutchinson, mechanical superintendent, Troy Record Newspapers; secretary-treasurer, Walter E. Lewis, assistant composing room superintendent; conference director, Floyd Laurenty, mechanical superintendent, Schenectady (N. Y.) *Union-Star*. Board of directors one-year members included: William A. Weinlein, composing room superintendent, Williams Press; and John Roth, composing room superintendent, Maqua Company; two-year members are Ken Gray, pressroom superintendent, Schenectady (N.Y.) *Gazette;* and John A. Burke, Gannett Newspapers; three-

(*Continued on Page* 90)

Roosevelt Succeeds Patterson at Rosback

F. C. Roosevelt is the new general manager of F. P. Rosback Co., succeeding J. C. Patterson, who has retired. Roosevelt has been with Rosback 40 years. He was sales manager immediately prior to his present position. Patterson will continue to serve Rosback in a consulting capacity, so that the firm will not entirely lose Patterson's wealth of experience in the Graphic Arts field.

Automatic Loose Line Stop For Slow Speed TTS Units

By R. D. FISHER*

*Machinist, Ada (Okla.) *Evening News.*

A front squirt can be costly in the amount of linecomposing machine down time and also in matrices and spacebands damaged when the machinist cleans up a bad front squirt. The main causes of front squirts on Teletypesetter operated linecasting machines are loose lines. The causes of loose lines in perforated tape are numerous, mainly inexperienced operators, wire breaks, and the failure of the linecasting machine to release matrices. To detect these loose lines in the assembler, I have installed a Loose Line Stop. Suitably wired, this stop consists primarily of a transformer, selenium rectifier, and an electric door opener (door lock). Slow speed Teletypesetter Operating Units are used in our plant. The Model 31 Linotypes are geared to run 7⅓ lines per min.

A small bracket *A*, Fig. 1, made from 3 pt. brass rule, was first mounted on the assembler slide clamp, using the adjusting screw to hold the clamp in place. A small adjusting screw (4-48x½ in.) was placed on the top of the bracket. This was installed so the loose line stop could be set just as the assembler slide clamp is set.

In order to place an insulated mount with two contact springs on the face frame cover, the assembler slide release extension finger was removed. The insulated mount is so placed that one contact spring is directly in front of the assembler slide bracket pawl. The other contact spring is placed so that it just misses the assembler slide clamp, as at *A*, Fig. 1. The front contact spring is insulated on the back side only. The other contact spring is insulated on both sides, except for the contact point.

An electric door opener was mounted on the lock mounting bracket shown in lower part of Fig. 2 and also at *C*, Fig. 1. This bracket was placed directly beneath the Teletypesetter operating unit and positioned so the door opener (Edward Electric No. 9 Door Opener) would be directly below and in line with the assembling elevator lever. A steel strip 2 in. long was mounted on the assembling elevator lever directly in line with the latch on the electric door opener. An assembler entrance cover latch was placed on the steel strip so as to be positioned just below the electric door opener latch, when the assembling elevator is seated in normal position. The tension spring on the assembler entrance cover latch should be strengthened. The coil spring which closes the electric door opener latch should be weakened. The spring should have just enough tension to close the latch. Now, when the door opener functions, the assembling elevator will be raised with no interference. The electric door opener may be purchased from any electrical supply house.

(The Door Opener referred to above is of the mortise type which is mounted in the door frame. It is by pushbutton from a remote location. Operates on 8-12 v., a.c. or 4½-6 v., d.c.; case is 3⅝ in. long, 2⅛ in. deep, 1 in. wide; face plate is 5⅞ in. long by 1¼ in. wide.)

By using a small transformer, the 110 v. current was reduced to 12 v., a.c. This voltage was further reduced to 10 v., d.c. by using a selenium rectifier. If the power is not converted to d.c., each time the electric door opener operates there will be a buzzing sound in the door opener. Also by using such low voltage the machinist can-

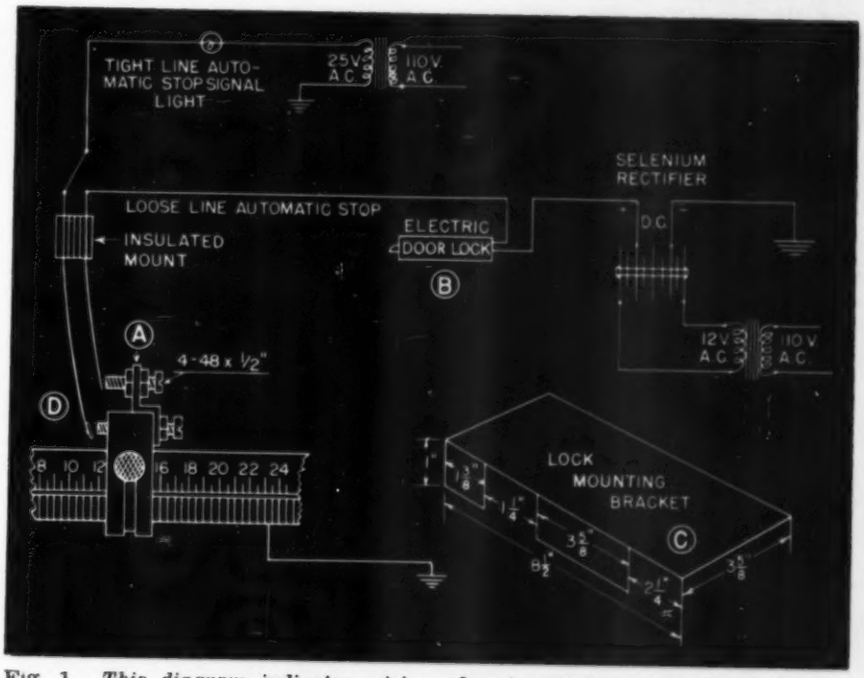


Fig. 1.—*This diagram indicates wiring plan for Fisher Loose Line Stop on slow speed TTS operated linecomposing machine.*

Fig. 2.—*Closeup of component part of Fisher Loose Line Stop on Model 31 Linotype in plant of the Ada (Okla.)* Evening News. *When a matrix line of normal justifying length is ready to be lifted to the delivery slide, the circuit is completed. But if the line is short of justifying length, the circuit remains open and the little door latch at lower left in the picture prevents raising the assembling elevator; at the same time, the keyboard operating unit is stopped.*

not be shocked when the loose line automatic stop operates. Most hobby shop dealers can supply you with a selenium rectifier with enough capacity to operate the electric door opener.

The wire from the negative side of the selenium rectifier was grounded to the machine. The wire from the positive side of the rectifier was brought directly to one side of the electric door opener. From the other side of the electric door opener a wire was brought directly to the contact spring on the insulated mount that just clears the assembler slide clamp, as shown at *B*, Fig. 1.

Set the assembler slide clamp on 11.6 or 12 picas, whichever is used. Set the assembler slide adjusting screw as it would be set when a new star wheel is installed. Now, using the minimum line sent by the wire services or the minimum line perforated locally, bend the contact spring that just clears the assembler slide clamp so that it touches the adjusting screw on the top of the assembler slide clamp. There should be approximately 12 pts. between the two contacts springs. With this clearance, the contact spring will yield when the maximum line is sent by the wire services. Then, when a finer setting is desired, the adjusting screw may be moved inward or outward, whichever the case may be. The minimum (shortest) line should always be used when making this setting. The machinist can now move the assembler slide clamp to set perforated tape of any desired measure just as the assembler slide clamp would be set for manual operation.

When the assembler slide moves to the left and the adjusting screw on top of the assembler slide clamp touches the contact spring, the circuit is completed and the electric door opener will operate, permitting the assembling elevator to rise. If the assembler slide does not consist of the required number of matrices for the adjusting screw to touch the contact spring, the circuit will remain broken and the electric door opener stays locked, thereby preventing the assembling elevator from rising. The machinist then can add the missing characters and manually raise the assembling elevator. Trip the safety latch on the assembling elevator handle and the unit starts operating once again.

Then, if the assembled line is too wide to settle between the vise jaws of the linecasting machine, the assembler slide adjusting screw touches the contact spring directly in front of the assembler slide bracket pawl, and this, in turn, shuts off the operating unit itself. (See *D*, Fig. 1.) This tight line automatic stop is merely an extension of the automatic signaling and stopping device which appeared in the June, 1955 *Printing Equipment Engineer*.

Now, if for any reason there is a loose line, tight line, tape exhausted, galley has become full of type, or the distributor spiral automatics become locked, the Teletypesetter operating unit will stop. All this is automatic.

"it's the IA in LA in 1956"
37th ANNUAL CONVENTION
OF THE INTERNATIONAL ASSOCIATION OF PRINTING HOUSE CRAFTSMEN, INC.
AUGUST 12—15 • LOS ANGELES • BILTMORE HOTEL

Program is Completed For TAGA May Meeting

Plans are now complete for the Technical Assoc. of the Graphic Arts meeting to be held in Chicago, May 7 through 9 at the Edgewater Beach Hotel. The largest number of papers ever submitted has been received. An extra session is under advisement so that they may all be read.

The Chicago committee arranging the program, has planned plant visits to A. B. Dick & Co., Armour Research Foundation, Rand McNally & Co., W. F. Hall Printing Co., The Meyercord Co., Miehle Printing Press & Mfg. Co., and Lithographic Technical Foundation's Research Laboratories.

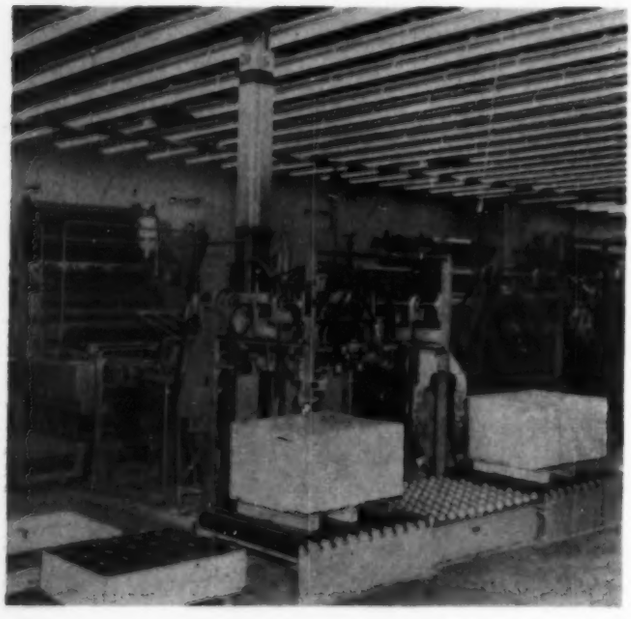
The Graphic Arts industry and its people are prepared to see that all attending TAGA will have an opportunity to visit in, inquire about, and see its plants.

News Ink Cost Increase

An increase in the price of news ink will take effect April 1, it has been announced by J. S. Hart, vice president of the Ink Division, J. M. Huber Corp. The increase will be ½c per lb. for news ink delivered in bulk and 1c per lb. for that sold in drums. There have been corresponding rate increases for flatbed news inks and color news inks.

Hart stated the increase became necessary because of the recent rise in cost of news ink oils, carbon black and all color pigments, as well as greater labor and delivery costs.

Please take a look at your address on the wrapper in which *Printing Equipment Engineer* is sent to you at your place of employment. If it isn't correct, please tell us about it on a postcard.



The Crown Cork and Seal Co., Inc., at its new lithography plant in Philadelphia, has combined several materials handling ideas to keep tin plate in constant readiness for high-speed Dexter Folder Co. feeders. These feeders deliver sheets to the coaters and presses which apply designs for canned products. Crown Cork has now made tin plate handling a relatively effortless operation and has reduced the problems of manipulating the heavy loads at this installation. Stand-by bundles are kept in readiness on conveyor sections which flank a ball-transfer loading station. This arrangement avoids the extension of a lengthy conveyor section into the general plant area.

To move skidloads onto the ball-transfer table and then at right angles to the conveyor-platform of the feeder's elevator, a flat-surface skid support had to be provided. So each skid is placed on a metal sheet.

Another feature of this installation is the insertion of vertical strips between storage-conveyor rollers to provide leverage for iron bars which workmen use to nudge the 4200 lb. loads forward.

As one bundle is delivered to the feeder it is replaced with another. The Dexter feeder is designed so new bundles may be loaded before the old bundle is depleted, enabling continuous operation.

That Saw-Trimmer—

Some tips on care of a composing room precision metal cutting tool.

By GEORGE F. MORRISON*

**President, The Morrison Co., Milwaukee, Wis.*

The modern composing room saw-trimmer is a precision metal cutting tool. Its use contributes greatly to rapid and accurate assembling of composition, whether it be advertisement, panel, or form makeup operations. It should be considered both as a gauge and a cutting tool. However, it cannot be made to perform these functions unless it is kept in accurately adjusted condition and the saw blade and trimmers are sharp.

Workmen who use the saw-trimmer usually appreciate a well conditioned machine, especially where saws are provided for individual use or where one saw unit is provided for the use of not more than two assemblers.

Considering that saw-trimmers are now used in multiple in the average composing room, it is necessary for the manufacturer to provide stout and sturdy machines. These are built to precision tolerances because exacting work is required of them. The reason for building a sturdy machine is that permanent accuracy cannot be secured with anything less than heavy construction. In the next place, no two workers operate a saw-trimmer in exactly the same way. The variation in operating saw-trimmers by different workers makes sturdy construction mandatory.

In talking about the differences in which operators do their work on a saw, there is frequently one chap who pushes the work too rapidly into the saw blade and trimmers. Of course, we are ready to admit he has his mind on his work to the exclusion of thinking about the right way in which to feed the work into the saw. Actually, rather than speeding the operation it is more likely that lost time will be the result. Jamming the work into the saw will stall the motor, causing overload or make it necessary to back the work away—allowing the motor to pick up speed—then resaw taking almost twice the time. In addition, crowding the saw will cause excessive dulling of the blade and possible pulling of the work out of the clamp, causing inaccurate cutting to the extent of spoiling material.

The "Compensator"

It seems to the writer that composing room saw-trimmers should be maintained and operated under modern machine shop practice conditions. In many composing rooms there is always the fellow who finds the work gauge out of adjustment perhaps 0.001 in. or 0.002 in. Rather than report the error to the man who takes care of the saw, this chap will compensate for the error by moving the micrometer adjusting barrel one or two graduations either side of the zero mark. Time taken to set gauges and trimmers properly will save many minutes of composition time when time saved is needed most.

Leading Up of the Blade

When metal accumulates on the side of the saw blade it is an indication of a dull saw or of insufficient clearance at the cutting edges of the saw blade in relation to the blade body. Actually, what happens when this condition exists is that the friction of the revolving saw blade set up by contact of the blade with the material being cut is sufficient to melt some of the type metal which will adhere tenaciously to the side of the blade. Most modern saw-trimmers are equipped with wick oilers which keep the sides of the blade moistened with a film of oil. When leading of the blade does occur, it's time to check the saw for sharpness and to inspect the wick oilers to see that they keep the blade sides moistened with an oil film.

Saw Speed

The speed of most composing room saw-trimmers is rated at 3500 r.p.m. Occasionally, a drop in line voltage may affect the r.p.m. of the saw blade. Then again, lack of motor care may cause a lowering of proper cutting speed.

Five Types of Blades

There are five types of blades available for composing room saw-trimmer use. These are: (1) The hollow ground formed tooth saw commonly called a brass blade. In this type the widest part of the blade is at the cutting edge, gradually tapering inwardly to the center part of the blade body. This blade usually is not recommended for sawing type metal because of insufficient clearance. These are of grinding temper and are sharpened with an abrasive wheel.

(2) The swaged tooth blade. In this type, the tips of the teeth are formed by using a special V shaped tool to swell or swage the tips beyond the body of the blade. The steel from which the blade is made is of sufficient ductility to permit the swaging operation and subsequent truing up by hand or machine filing. These are normally

A Miehle 61 Offset press was recently installed at the plant of Allen, Lane & Scott, a commercial printing firm in Philadelphia. The installation was an unusual one, for as shown, the press had to be hoisted in sections and brought in through a third floor window. The entire rigging operation was completed in a short time without disrupting pressroom production or traffic. This is the second Miehle 61 for the company.

sharpened with a three cornered file.

(3) The set tooth blade is made from similar composition steel as that for the swaged tooth blade. The teeth are set alternately left and right and are hand or machine filed after the setting operation to true up the cutting diameter of the blade. In the set tooth blade the effective cutting action is reduced greatly, but if the saw blade is kept sharp its cutting action is fairly satisfactory.

(4) There is yet another type of blade upon which the writer's company obtained a patent. This saw blade provides what might be called "quick clearance". Actually, the blade body walls are parallel to each other without taper toward the axis. The cutting edges of the teeth are provided with a ball-like extremity, that is, if you were to think of a blade cut in half and you viewed the cut apart section, the tips of the teeth would be round like the cross-section of a ball. This blade is sharpened by grinding on a fixture furnished with the machine.

(5) Carbide tipped blades are available. Their worth is in longer usage between sharpenings more than any particular cutting advantage. Keeping in mind the greater initial cost, the use of carbide should be determined on the basis of sharpening economy.

Saw Sharpening Service

In a goodly number of composing rooms, saw blades are sent regularly to a saw servicing company for sharpening and reconditioning. There are a number of reliable companies throughout the country which furnish this service at reasonable rates.

Stereotyping—

Some of the Techniques Used with Discussion of Molding and Plate-casting Improvements

By JOSEPH D. GOGGIN*

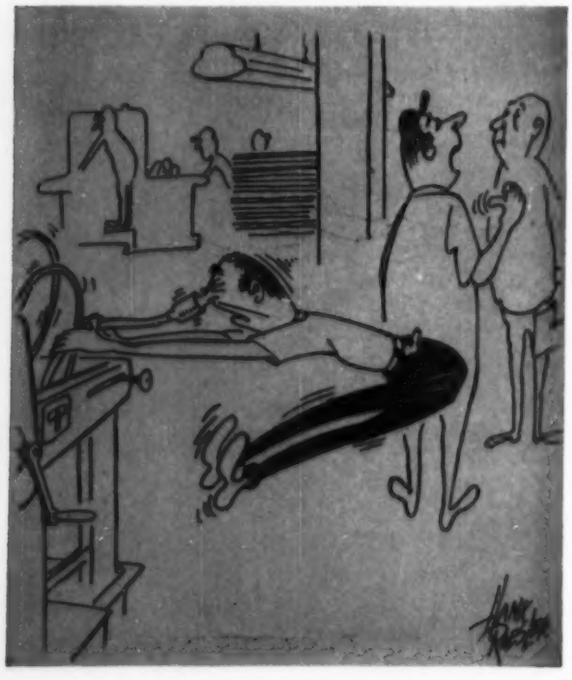
**Manager, Newspaper Publishers Supply Co., Chicago.* *Abstract of address delivered before Washington (D. C.) Club of Printing House Craftsmen, Fall of* 1954.

There are perhaps no fewer than 25 or 30 different grades and qualities of stereotype matrix paper being manufactured. Stereotype techniques for the use of any grade or quality of stereotype mat paper are basically the same regardless of the cold or hot molding methods involved.

It is the objective of the stereotyper in molding to press the printing surfaces of the type form or plate or both into the mat paper at one uniform level of penetration, without changing the size or shape of the form surfaces; throughout the intermediate stages of stereotyping operations to protect the printing surfaces molded into the mat paper, and in casting the plate to solidify the metal alloy as rapidly as conditions permit.

For the most part, stereotype operations appear to be a series of compensations. A small percentage of the stereotype mats and plates produced actually reach the objectives just mentioned due to limitations of materials and machinery.

Almost any opinion about the quality of the stereotype printing plate could be accurate in describing a given class of stereotype plate production. When the machinery, mat paper and metal are correct for a particular printing requirement comparison of printing from a stereotype plate type with printing from any other type of letterpress plate would be difficult to identify the printing from the stereotype.



"Automatic suction feeder's gone haywire — Joe's looking into it now."

The Time Element

The time element causes major compromises in stereotype mat and plate production. The arbitrary need for producing a molded stereotype mat in seconds, and the printing plate cast and finished ready for delivery into the pressroom rapidly may result in plate variations.

Nation-Wide Mat Services

The newspaper printing industry uses mats and plates in several forms. Practically all of the local advertising illustrations; a large percentage of national advertising copy; feature pictures and news, comics, cartoons and line drawings, plus miscellaneous releases, are supplied to newspapers in molded stereotype mat forms by companies specializing in such service.

A dozen or more stereotype mat syndicate services supply newspapers with molded stereotype mats to illustrate thousands of merchandising items in local advertising. These services are furnished to the subscribing newspaper periodically. Along with the mat service, the newspaper receives proofs of the illustrations in book form, numbered for convenient selection by local advertisers preparing their copy.

Several hundred commercial stereotype mat houses are believed to be producing approximately 13,500,000 newspaper page size mats annually.

Perhaps the major portion of newspaper national advertising stereotype mats is produced from standard grades of cold molded mat paper. However, the volume of premium quality mat papers, produced by hot molding methods appears to be increasing for national ad mats.

Premium quality mat paper is usually molded with heat and pres-

sure over the type form or pattern plate. The cost of premium grades of mat paper are from two to three times higher than the prices for standard grade stereotype mats, according to the specifications furnished. Production rates for hot molding mats are considerably slower than cold molding operations. The baked mat is rarely produced at more than 15 mats per man per machine hour.

A limited number of newspaper owned mat syndicate news services produce a majority of the news photos; assorted types of feature illustrations, comics, cartoons, line drawings and feature news items intended for national distribution among newspapers. A large share of this volume is produced in New York, Cleveland and Chicago. Except where color printing is involved, standard grades of cold molded stereotype mats are used for this work.

Flat Stereo Plates

Almost one-half of the total annual mat consumption in the United States and Canada, including all grades and qualities of stereotype matrix papers, are used to produce flat stereotype plates. These plates are intended for insertion in the page type forms of daily and weekly newspapers.

The top production speed of newspapers printing direct from type forms on flatbed printing presses is under 3000 papers per hr. Newspapers printing on rotary types of printing presses from curved page stereotype plates, usually printing two plates per page up or more, produce an average estimated 24,000 papers per hour.

Metropolitan dailies cast multiples of plates from the same page mats with presses geared to much higher production speeds. Large dailies may cast from 8 to 40 page curved plates from one page mat.

Stereo Technical Operations

Many operations are involved in producing the finished stereotype printing plate. These operations concern preparation of the type forms and mat in advance of molding the mat. For cold molding, the actual time for producing the molded mat is about 15 sec. Requirements for protecting the printing surfaces of the molded mat and supporting the non-printing areas varies considerably according to the number and area of spaces and nature of the printing surfaces involved. Two pages are rarely alike. Similarly, time cycles for eliminating the mat paper moisture and forming the imprint (mold) for casting are influenced by variable conditions encountered in these operations. The hand operated types of casting and finishing machinery obviously are much slower in production than the Automatic Autoplate machinery which casts and finishes a full page newspaper plate (except for color printing) every 15 sec.

Time cycles for newspaper stereotype operations are usually arranged according to individual requirements, equipment and manning with the view of producing curved plates in a uniform flow from the composing room, through the stereotype department, into the pressroom.

Many newpapers allow about 15 min. time from the closing of the last page type form in the composing room until the last finished stereotype plate is delivered into the pressroom. Some newspapers are delivering starter plates into the pressroom in less time.

That's a Lot of Metal

Estimates for the total annual number of pounds of metal alloy used to produce page curved stereotype plates for printing newspapers range from 325,000,000 to 350,000,000 lbs. Less than 1% of this tonnage is lost through oxidation, with the balance reclaimed for subsequent use.

Mat Shrinkage

Many newspaper publishers claim that a substantial savings in production is effected through stereotype mat shrinkage. The reduction of the printed page measurement through shrinkage permits use of narrower newsprint paper rolls with a saving of approx. 5% in the cost of newsprint. Cold molding methods with standard quality stereotype mat paper cannot eliminate some mat shrinkage since a percentage of water is required to provide satisfactory molding. Standard mat papers are composed almost entirely of a fibrous stock. Dry paper fibres appear to be rigid and unyielding, whereas wet fibres are swollen, soft and elastic. The water-swollen fibres expand measurement of the mat sheet. In this enlarged state the imprint of the printing surface is taken. As the moisture is dispersed from the mat before casting the plate the fibres contract to their dry size and shape, causing the dimension of

(*Continued on Page* 52)

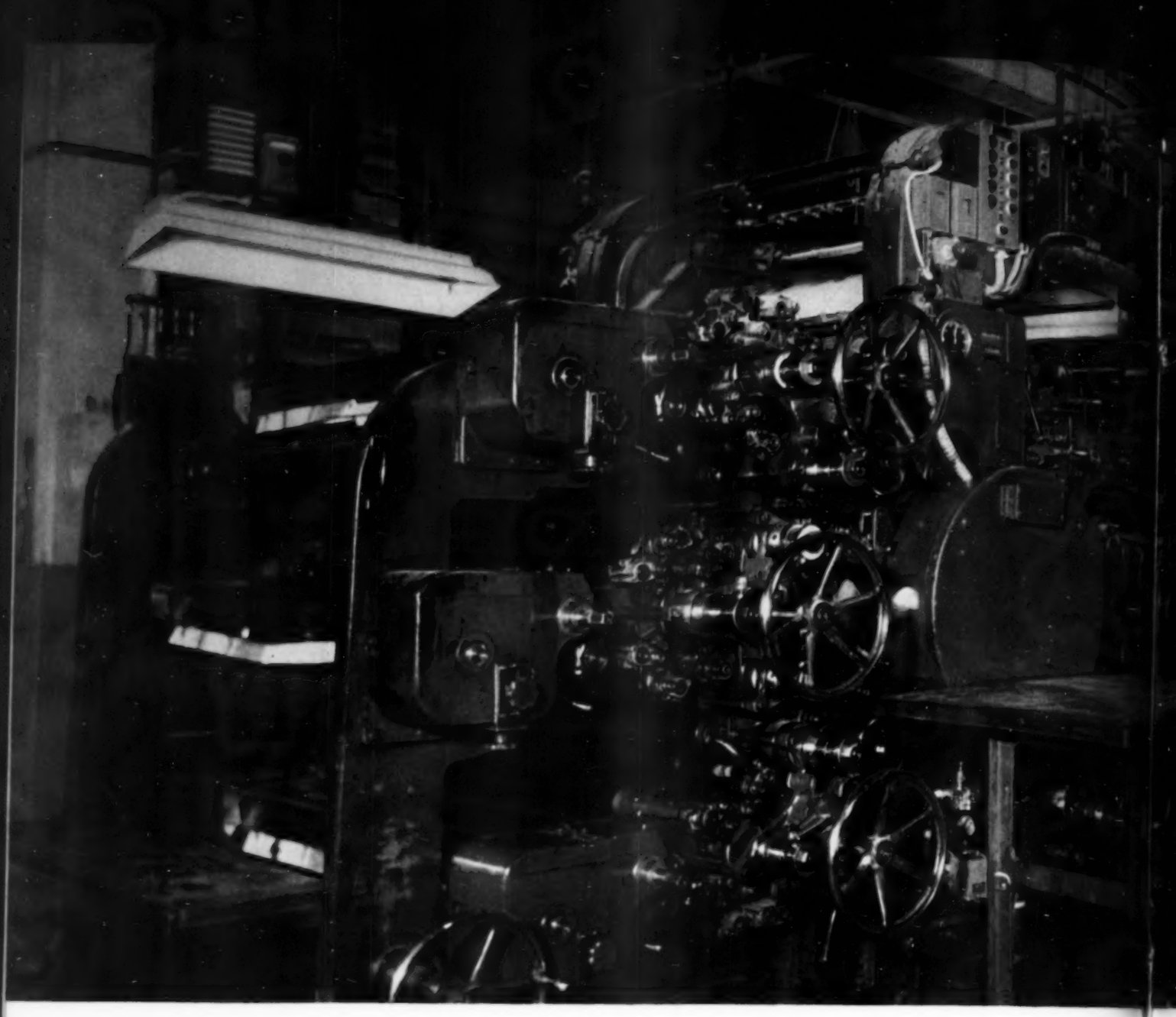
Norman L. Rowe, company vice president, and William Hampton, eastern division employee, joined the ranks of Ideal Roller & Mfg. Co.'s 20-year service club recently. H. Harris Love, president, presented them with gifts at a testimonial dinner. Those attending the testimonial dinner are shown above. First row (left to right): Alfred Terry, Warwick Penney, Norman L. Rowe, Lillian Kletske, H. Norris Love, Arthur Epsom, Charles Fenning. Second row: Elmer Benny, Gustav Reischl, Gaetano Florentino, Anthony Esposito, William Beanland, Antonio Talenti, Herman Wiedhoft, Arthur Downes. Third row: Edwin Foy, Edward Schmidt, Peter Kott, Paul Stocker, Fritz Mewes, William Hampton, August Witte, Peter Jahn, Harry Koegel.

PRINTER WAS RIGHT ON BEAM

(Abstracted from address delivered by Harvey Schwandner, editorial department, Milwaukee (Wis.) *Journal*, before Great Lakes Mechanical Conference, Milwaukee, January 1956.)

"There is the story of one of Production Mgr. Joe McMullen's assistants. We have a custom at the *Journal* of printing a full page of New Year's babies on Jan. 2. One year this assistant called up the picture editor and said, 'Why couldn't we have gotten those baby pictures in advance?'

"Well, this picture editor is no longer with us, but the mechanical man is. If any of you gentlemen would care to visit this picture editor, you'll find him at Dr. Helmuth Himmelpfennig's Shady Lane Rest Resort. I wouldn't go around the first of the year, though. Because at that time the picture editor rattles the bars of his cage pretty hard."



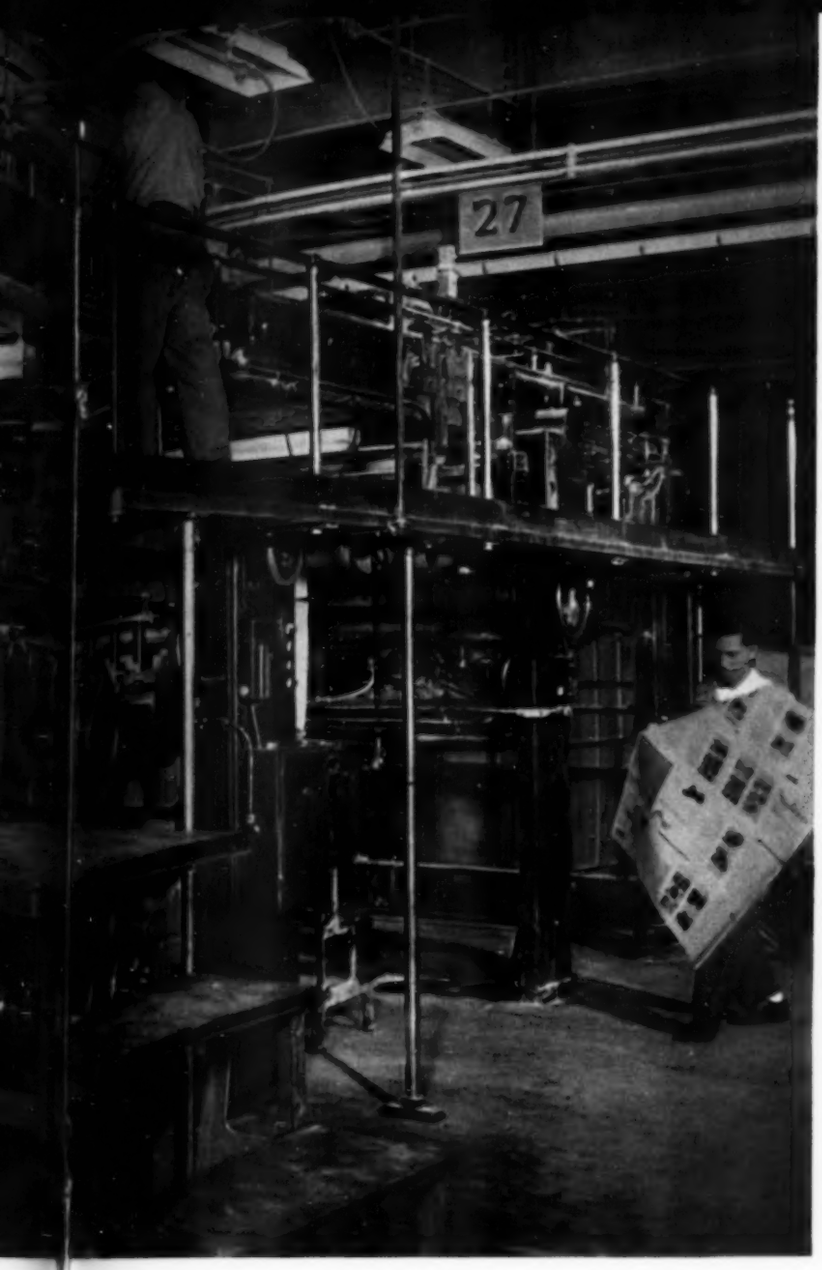
Wherever printing is big business, you see

You're looking at a press that turns out some of the best color work in the business. It's one of a battery of sheet-fed Cottrells that this owner uses for especially fine book and magazine inserts, pharmaceutical booklets, and similar exacting jobs.

It's also a press that makes money. It proves that superb color work is not an expensive luxury. It lets advertisers and publishers plan on quality at a reasonable price.

Like all Cottrells, this press is built on the common impression principle (you can't lose register between color units because there are no transfers between color units).

The Cottrell Company WESTERLY, R.I.



Cottrell 36 x 48" five-color, sheet-fed rotary letterpress at J. W. Clement Co., Buffalo. Photos by William Richards.

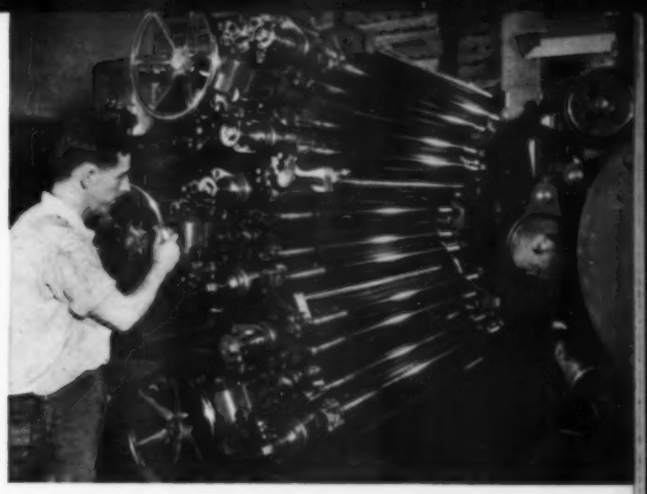
Cottrell presses at work

It turns out work with remarkably high color fidelity—and does it at speeds up to 6500 sheets per hour.

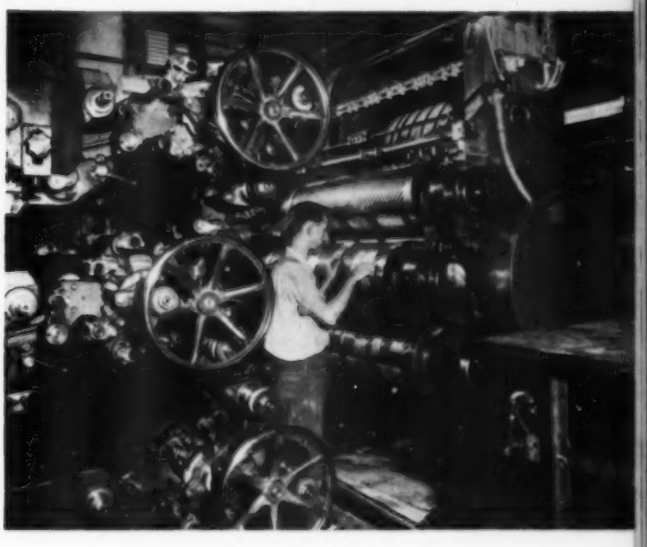
You find Cottrells in leading magazine, boxboard and commercial plants. In fact, *wherever printing is big business*, you see Cottrell presses at work.

Sheet-fed Cottrell rotary letterpresses, built in paper and boxboard models, are available with two, three, four, or five color units. Press sizes are 36 x 48″, 40 x 59″, and 48 x 71″. For the full story, check with your Cottrell representative, or phone The Cottrell Company, Westerly, Rhode Island.

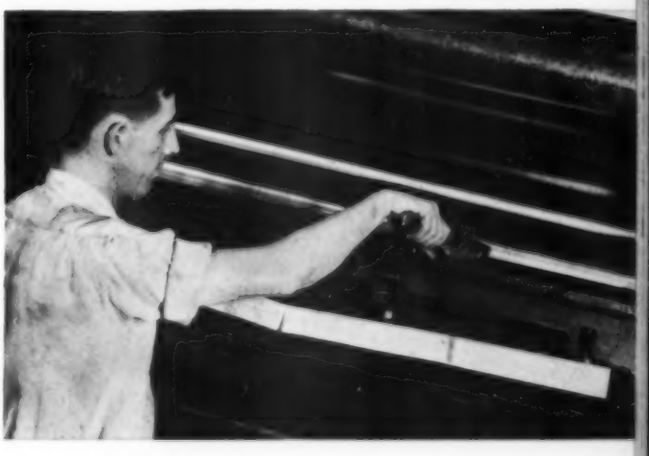
. . . a subsidiary of Harris-Seybold Company



QUICK ROLL-BACK of inker stand gives easy access to plate cylinders, allows plenty of room for makeready. Turn of a wheel rolls inker stand precisely back into position.



FAST, ACCURATE LOCKUP of plates is accomplished with Cottrell Rapid Register Hook System. Spirally grooved plate cylinders may be reached comfortably from the floor.



CONVENIENT INKING speeds makeready, cuts downtime. Fountain roll adjusting screws are easy to reach. Excellent roller arrangement assures smooth, even ink distribution.

IPI Personnel Changes— W. F. Cornell, division president of Interchemical Corporation, Printing Ink Div., announced personnel changes in the home office and Central District Headquarters. F. Jack Jeuck, division vice president and former central district manager with headquarters in Chicago, has been appointed vice president of sales. Succeeding Jeuck as central district manager is C. Stanley Johnson of Chicago. Ernest A. Green, former Los Angeles IPI branch manager will head the National Accounts Dept. Both Jeuck and Green will have headquarters in the firm's New York home office.

JEUCK JOHNSON GREEN

Stereotyping

(Continued from Page 49)

the mat to shrink. Mat expansion and contraction due to water is known as chemical change of measurement.

The measurement of the page type form and the printed page can be changed mechanically and independently of water by pressure. Pressure direction can be regulated to expand the mat. As the pressure is relieved during roller molding the paper contracts, reducing the printing area on the mat. Fewer perhaps than 200 daily newspapers are getting both chemical and mechanical change of measurement, since mechanical changes are optional with the newspaper and may be readily avoided.

Type form measurement change, chemically, mechanically or in combination, is not the same crosswise and lengthwise of the printed page. Since the change of measurement is not uniform, a source for printing surface distortion, plus risk of register loss in color printing occurs.

To hold register, a fair percentage of newspapers is using baked hot molded stereotype mats to make color printing plates.

Objectives for Improving Stereo Plates

The program for improving the stereotyping process in all classes of printing, but particularly the newspaper publications where production time is limited, include:

(1.) Eliminate the requirement for hand packing methods for supporting the non-printing areas of the stereotype mat.

(2.) Obtain uniform penetration of all types of printing surfaces in the mat at the same level, since any variables in surface penetration into the mat paper are reproduced on the face of the stereotype printing plate.

(3.) Eliminate printing surface distortion.

(4.) Produce a smoother printing face on cast plates.

These objectives must be achieved without any penalty of time in production. In other words, produce magazine quality printing plates (which are now baked in slow production) with cold molding operation and time.

The No. 1 objective to eliminate hand methods for supporting non-printing areas in the mat, as well as protection of the printing surface, was reached many years ago by several processes. These were Bungay, Matusche, Kaufmann, Fristchi, and perhaps others. Yet the accomplishment involved use of additional sheets of various types of treated papers which altered the properties of the mat too greatly to be accepted. The American Newspaper Publishers Assoc. Research department working with Kimberly-Clark has expended over $250 thousand on this objective.

To accomplish objective No. 2 for getting uniform penetration of all classes of printing surface into the mat paper at the same distance and level is expected to involve equipment, mat paper and methods which do not require blanket cushion in molding. The yield of the blankets during molding permits some percentage of the delivered pressure to escape upward into the blankets. The loss is not uniform due to variables of surface resistance in a given area. Thus the actual pressure delivered at the form and mat is not uniform.

The avoidance of printing surface distortion as in No. 3 objective is anticipated to impose several changes. Chief among them are: No changes of type form measurement; no stereotype mat shrinkage (this is a condition that may appear in conflict with the huge savings obtained by newspaper publishers through narrower newsprint paper rolls). Yet, except for the sizes of national advertising matter and the standards of column width established by wire services, upon both of which the newspaper publisher exerts an influence, the page type form may be set to print any width of page desired.

A Simple (?) Solution

A simple solution for meeting all four of the major objectives for the improvement of stereotype printing plates in general, and newspaper printing plates in particular, appears to be in getting the results obtained with wet-baked mats and hot molding with techniques adjusted to cold molding cycles. This is essentially the view of some stereotypers who started five or six years ago to resolve their problems for improvement.

There has been a long struggle in the development of a new type mat paper which is expected to do everything desired in the improvement program. We have only just reached the point where some field testing of the new paper may be done with the understanding that there is a great deal more to be done in reaching the goal.

ATF Adopts Four Point Action Plan

The new management of American Type Founders Co., Inc., has announced an aggressive four-part program to help printers meet problems of the future. This program, says ATF President Louis C. Edgar, jr., will assure "that 10 years from now ATF will continue to be numbered among the leaders in the Graphic Arts equipment field."

Louis C. Edgar, jr., (left), president, American Type Founders Co., Inc., and Dr. Hans Bolza, managing director, Koenig & Bauer, West German manufacturing firm, sign and agreement franchising ATF as sales distributor in the U. S. for Koenig & Bauer printing presses and equipment.

Speaking before the Engineers Club, New York, N. Y., Edgar said Part 1 of ATF's new program concerns distribution of its foundry type. Instead of selling type through 12 branches, the company has set up 43 authorized franchised ATF type dealers in principal cities. An attempt was made to select dealers that are already established sources of Graphic Arts supplies and ones qualified to give good service on type.

Part 2 of the ATF program concerns product development, Ed-

gar continued. Definite results of this program already include the ATF Green Hornet press. This is a new web-fed commercial offset job press, said to be capable of producing up to 25,000, 11 in. by 17 in., impressions per hour, in two colors on one side or one color on each side. Another line of development is aimed at making color offset methods available to publishers of newspapers and trade magazines. An ATF web offset color press is operating at the Rochester Institute of Technology printing RIT's weekly newspaper with student help. Edgar cited the trade paper *Automotive News* as one of the most successful applications of ATF web offset presses for high speed magazine printing. Edgar also made reference to three new high speed, stack-type business forms presses. One of these is a variable size press that can be changed over with comparative ease to be either a 17 in., a 22 in., or a 26 in. press.

Extension of auxiliary and related lines of equipment is the target of Part 3 of ATF's new program. Already distributing the products of such manufacturers as Hamilton, Challenge, Rosback, Morrison, Douthitt, Rouse, Bostitch, Macbeth, Doyle, Herbert and Baldwin, ATF is continuing to look for new lines. In October, 1955, the company began distributing two machines for performing bindery operations, the Tipmaster and the Perf-A-Matic.

Part 4 of the program concerns expansion of imported equipment lines. Beginning March 1, 1956, ATF will be the U. S. representative for the Koenig & Bauer line of sheet and web-fed typographic and rotary letterpresses and sheet and web-fed gravure presses (see accompanying illustration). All K&B presses will be offered on the same finance arrangements as other ATF presses.

ADD COLOR TO PLANT LAYOUTS

Printing plant executives can now make plant planning and departmental workflow layouts in color. Repro-Templets, Inc., has introduced a line of transparent layout tapes.

With these colorful tapes, the printing plant executive can see clearly what the arrangement of his plant could be. Printing executives can make their ideas for plant improvement easily understandable to top management with the help of the color pieces. They can also use the colored tapes for production control charts, graphs and continue inventories. Both transparent and opaque acetate grid sheets are also offered by the company. The grid sheets, 0.005 in. thick are printed in a fine blue line in a ¼ in.:1 ft. scale with a broken line every 10 ft.

The printed color of the transparent layout tapes is sandwiched between two layers of film. The following tapes are available in any of five colors—red, orange, blue, green or black: Arrows, curved arrows, single lines, center lines, broken lines, conveyors (belt, 90 deg. curved roller, straight roller, gravity wheel, 90 deg. gravity wheel), drag chain, and overhead Monorail. Available in black only are tapes for architectural details such as beams, columns, concrete and various kinds of brick. Color tapes are made for telephone outlets and power outlets, too. Although not directly of use in planning Graphic Arts Equipment layouts, colored templets are available for specific equipment in six colors. These are for use in placing machine tools in layouts.

For more information, please mention PEE No. 106 in your request.

R.o.p. Color Stressed At Great Lakes Meet

The Non-Metropolitan Newspaper Session of the Great Lakes Mechanical Conference, Milwaukee, Wis., was opened Sunday afternoon, Jan. 29, by Chairman H. L. (Mike) Luloff, production manager of the Madison (Wis.) *State Journal*, and by Co-chairman Jack Kroenig, pressroom superintendent, Green Bay (Wis.) *Press-Gazette*.

First speaker of the session was Robert L. Julian, Julian Engraving Co., Milwaukee, Wis. Julian described the Consolidated Engrav-a-plate machine by which he produces 65-80-100-120 line screen engravings on plastic.

Asked to give his experience with the machine, Julian stated he had obtained 100,000 impressions with good results from the Nolar Foil plastic plates which he produces. Nolar is a Vinyl plastic material. Costwise, Julian claims he obtained a complete 110 line plastic plate at a cost 40% less than a similar sized zinc engraving.

Julian described briefly how he operates the Engrav-a-plate machine. It is possible to darken or lighten the engraving by adjusting for more contrast or by lowering the range of contrast. This is done after the copy is placed in the machine and before the engraving begins. Then the stylus is set and the plate engraved. Present capacity is a 6 in. by 8 in. plate maximum. Engraving time varies from 23 min. to 33 min., depending on the screen. A 6 in. by 8 in., 120 line screen plate requires 33 min. to engrave. The tool makes 450 vibrations per sec.

Julian then asked for questions from the floor of the meeting. Among the first was whether he had tried to mat from these engravings or not. He said matting would work well on 65 line screen engravings.

He was asked whether all his work was done on enamel stock and Julian replied "No." He has done work on many different stocks and has always obtained satisfactory results. "On newsprint too?" he was asked. Julian answered that the 120 line screen engravings did not print well on newsprint, but that 65 line and 85 line engravings printed well.

Julian then described another feature of the Engrav-a-plate machine. That was the back engraving procedure. For this, the stylus is changed from the regular engraving stylus and the engraved plate is turned over. The machine is set to back engrave and the plate is run through completely again.

Asked how deep the cuts are engraved, Julian said on a 65 line screen engraving the highlight dots are 0.009 in. deep and on a 120 line screen engraving they are 0.0045 in. deep.

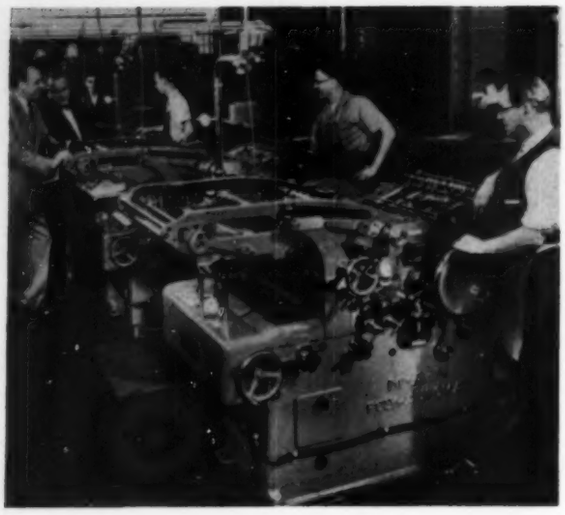
As an example of the time saving possible with the Engrav-a-plate machine, Julian said he had produced a mounted engraving and put on the press in ½ hr. from the time the photo was taken. One limitation of the machine, he said, is that at present it produces only same size plates. If enlargements or reductions are desired, these must be done photographically before the copy is put into the machine.

Ad Manager Views R.o.p. Color

Atlee Bratley, advertising manager, Racine (Wis.) *Journal-Times*, gave a composite picture of how the advertising manager of the non-metropolitan newspaper looks at r.o.p. color. Brunt of his remarks was that while color is presently only a small part of the total advertising lineage, it is a selling tool which is bound to become more important as time goes on. Use of color in the non-metropolitan paper is really dependent on how fast the mechanical department develops its color capacity.

As an example, Bratley noted that the 166 color ads run in his own paper in 1955 represented only 2% of the total advertising volume but that this was triple the amount run in 1950. He cited, too, the $11 million being invested by the Chicago *Daily News* to convert to full r.o.p. color.

One development which Bratley cited that will help bring color to the non-metropolitan newspapers is



Old Firm Installs New Press—Charles M. Henry Printing Co., Greensburg, Pa., one of the largest printing plants in Western Pennsylvania, recently installed four new Miller Printing Machinery Co. M.A.N. Poly-Automat Job Presses. This installation by the 58 yr. old firm is in line with the company's modernization and expansion policy. Within the last 18 months Henry Printing expanded its floor space and added two large offset presses.

the growing trend by national brand name merchandisers to prepare mats in one to four colors for distribution to papers across the country. This could do much to give the smaller papers prepared mats from which to run color without having the expense of a lot of expensive color overhead at the beginning.

Color Practice in Smaller Daily

E. L. (Bob) Burgess, production manager, and John Ulk, pressroom superintendent, La Crosse (Wis.) *Tribune,* showed a film on how the *Tribune* handles its color work. One feature of their color practice is the use of Bista pre-makeready mats. In many cases they provide a depression in the stereotype mats for the insertion of an engraving in the stereo plate. Then they run the inset plates on the press.

The *Tribune* obtains its color through the use of the Bourges process. In this process, overlays of three sheets are placed successively on the picture to be produced. The non-printing area coating in each color is removed manually and the remaining pattern is used as copy to make engravings.

This process, said Burgess, is right for the non-metropolitan paper because no special equipment is required. All that is needed is a competent commercial artist who knows color values. He is the man who makes the overlays. And from there, the color work is handled with standard equipment.

Questions and Answers

The meeting was thrown open to questions from the floor. Clayton Smits, Green Bay (Wis.) *Press-Gazette,* and Forest Moore, of the Madison (Wis.) Newspapers, alternated in handling the questions.

Comments were asked from the floor as to experiences with going to a 9 col. page. Consensus was that readers did not object. In one case, in fact, readers had said the paper looked better and was easier to read in the 9 col. format. Cecil Watkins, mechanical superintendent, Sidney (O.) *News,* said his paper went from the 12 pica column width to 11.6 picas width with 3 pt. column rule.

Another questioner wanted to know whether anyone attending the session was getting plate length variation in Pony Autoplates. Consensus was that such variation may be due to the temperature variations in the plates when they are shaved and trimmed. If a plate is allowed to remain in the Autoplate until cool, then shaved and trimmed it will not shrink appreciably. But if a plate is shaved and trimmed hot, and then allowed to cool the shrinkage may be quite large.

Horace H. Parker, Richmond (Ind.) *Palladium-Item,* asked if the papers represented were using a burnishing machine with the Ludlow. Smits commented that his paper burnished all Ludlow above 36 pt. Another paper cleans everything above 24 pt. Smits added that periodic cleaning of the mouthpiece helped reduce the need for burnishing. John W. Hillmer, composing room superintendent, Waukesha (Wis.) *Daily Freeman,* reported that his paper's mechanical executives had been skeptical of Ludlow on account of sinks and blemishes on 24 pt. and larger type. They went so far as to try a special mixture of type metal to correct the trouble. But it was eventually eliminated by cleaning the mouthpiece every week. Now they use no special metals and have very little sink trouble.

Bob Burgess, La Crosse (Wis.) *Tribune,* made two observations. The first had to do with exchange copies, that is, papers which are going to other newspapers, advertisers, checking bureaus, etc. Burgess said that such copies are often taken from the very first papers off the press, and are not representative. He said that in order to be certain that others got the correct impression of his paper's work, the pressroom superintendent had the OK as to when these exchange copies could be taken out. Only when the adjustments in the press had been made and the papers were truly representative of the product that would be sold on the streets that day, did the pressroom give that OK.

In the second place, Burgess asked that all newspapers in the business of molding mats for local advertisers which will be used for wide distribution among other newspapers, please use care and caution in molding such mats. Often, he said, they get such poor mats and there is very little they can do to get a good print. Such poor quality does not only reflect upon the particular paper which must run ads from imperfect mats but it also reflects on the concern who made the mats and upon the newspaper media as a whole.

Progress Reported in Indirect Letterpress

Research continues on the process for printing newspapers, without use of stereotyping or photomechanical methods, at the American Newspaper Publishers Association Research Institute laboratories.

Being utilized is the Direct Image Offset plate, developed by Standard Rate & Data Service, and an offset press designed by Hess & Barker.

The present process involves the following steps: Type pages are made up in the usual way. There are no changes in composing room procedures. Cuts must be mounted in uniform height, however. Each locked up page is placed on the bed of a standard proof press. The form is inked and a heavily indented impression is taken on an aluminum foil faced offset plate. The plate is then treated with a surface solution to protect and strengthen the printing areas. Then, the plate is debossed and is ready for the press. Normal running speed of the press is approx. 12,000 papers per hour with a top speed of approx. 15,000 papers per hour. The press was designed specifically for newspapers having press runs up to 30,000 papers.

Among the advantages claimed for the process are: No change in composing room techniques; electronically-engraved plastic plates as well as standard engravings, reproduce well; there is little or no detectable wear on type and cuts under the single platemaking impression, which is lighter than that used in rolling mats; no stereotyping or photomechanical equipment is required for this process; weight of press plates is substantially reduced; essentially all operating parts of the Hess & Barker press are accessible from floor level; a small paper would be able to attain rotary press speeds with this process.

Any page width up to 17½ in. may be run on this Hess & Barker press; and the machine permits carrying narrow margins without danger of running the work off the edge, say the sponsors. A saving of 8% in consumption of newsprint in proportion to printed area is claimed.

Use of the press is not restricted to newspaper work, of course. With the addition of drying equipment, most grades of book and coated papers can be run and folded, it is reported. Conventional or Direct Image plates can be handled in the same run. A wide vari-

ety of color combinations can be run on either one or both sides of the web. As many as four colors can be printed. The press is of unit construction; each unit produces four full-size or eight tabloid pages.

New Printing Scholarships

Seven new scholarships, totaling approx. $26.8 thousand, have been established so far this academic year in the Carnegie Tech School of Printing Management.

From Belleville, N. J., the Ever Ready Label Corp. is financing a full-tuition four-year scholarship ($3200) which will be available in the fall of 1956. The scholarship is named the Sidney Hollaender Memorial Award.

The Harris-Seybold Foundation, Cleveland, is supporting two full, four-year scholarships whose value totals $6400. Preference will be given to sons of Harris-Seybold Co. employees or to students residing in communities where the company and its subsidiaries operate.

In Menasha, Wis., the Marathon Foundation has made available a full four-year award to a printing management student deemed worthy of receiving aid. Preference will be given to applicants from Wisconsin or the Midwest.

The George Van Hoffman Foundation in St. Louis, Mo., is financing a four-year award valued between $800 and $1000 per year. It will be known as the Van Hoffman Press Scholarship. Preference will go to applicants from St. Louis and adjoining areas.

In New York, N. Y., an endowed full, four-year scholarship has been established at the School of Printing Management by the Book Manufacturers' Institute through funds from the estate of the late Alfred E. Ommen. Applicants should be interested in book manufacturing.

A scholarship ranging in value between $800 and $1200 per year for four years has been established by the J. W. Clement Co., Buffalo, N. Y. Applicants restricted to employees' sons.

In Akron, O., a four-year scholarship of $500 per year was established for an Akron Public School graduate by the Lindsey Lithograph Co.

Self-Ad Early Bird

Headquarters for the PIA Printers' and Lithographers' Self-Advertising Exhibition and Awards contest reports that the first entry for the 1956 contest was received early in February. The early bird, Barwick & Son Ltd. of Montreal, Quebec, won an honorable mention in the 1955 exhibition and appears eager to do as well or better this year. The sponsors report that this is the earliest date ever for the first entry.

Newsprint Rolls Handled Faster

The physical handling of newsprint rolls at the Times-Mirror Co., Los Angeles, has been expedited through the use of Link-Belt paper roll lowering and elevating equipment. An idea of the size of the newsprint handling job is revealed by paper consumption figures of the Los Angeles *Times* and Los Angeles *Mirror*, newspapers published by the Times-Mirror Co. The *Times*, a morning paper, is published seven days a week with a net paid circulation of 428,323 on weekdays and 814,492 on Sunday. The *Mirror*, its evening counterpart, is published six times a week with a circulation of 300,000. To print these papers the Times-Mirror Co. consumed 167,816 T. of paper in 1955—enough paper to stretch in a 5 ft. strip for 2,378,150 miles.

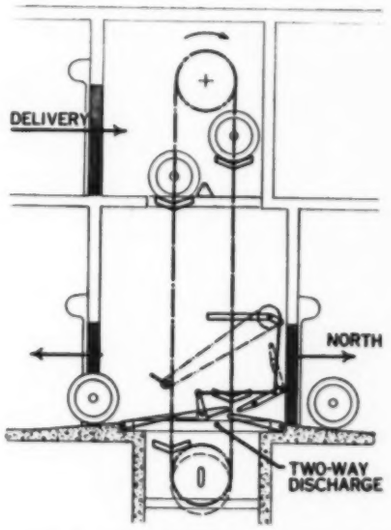


Fig. 1.—This schematic drawing of the Link-Belt Lowerer at the Times-Mirror Co., Los Angeles, shows the V-shaped fingered trays by which the rolls of newsprint are lowered. This is the two-way discharge unit. An additional set of unloading fingers can be rotated into a down position to intercept the paper rolls when they are to be rolled out to the South side. When rolls are to be discharged to the North side, this set of fingers is rotated into vertical position, out of the way.

The paper is delivered by truck to the plant in downtown Los Angeles. In 1955 this required 10,800 truckloads which arrived at the rate of 50 a day, five days a week. Every 13 min. through the day a truck of paper is scheduled to arrive. This is approximately the time required for unloading the average truck, which contains about 18 to 21 rolls, with maximum weight of 30,000 lbs. To move this paper rapidly from two unloading docks to basement storage two Link-Belt paper roll lowerers are employed. These are used in conjunction with lift trucks equipped with rotating loading or handling clamps. The system has resulted also in savings from gentle handling of the paper rolls, preventing internal damage to the roll and damage to sheet paper.

How Lowerer Works

The lowerer is essentially a series of V shape fingered trays mounted on hangers freely suspended between two strands of chain which travel in a vertical plane around head and foot sprockets. Fingers at both the loading and unloading positions intermesh with the fingers of the trays.

The newsprint roll is delivered by clamp truck into the loading position of the lowerer, where it rests on finger supports until it is lifted

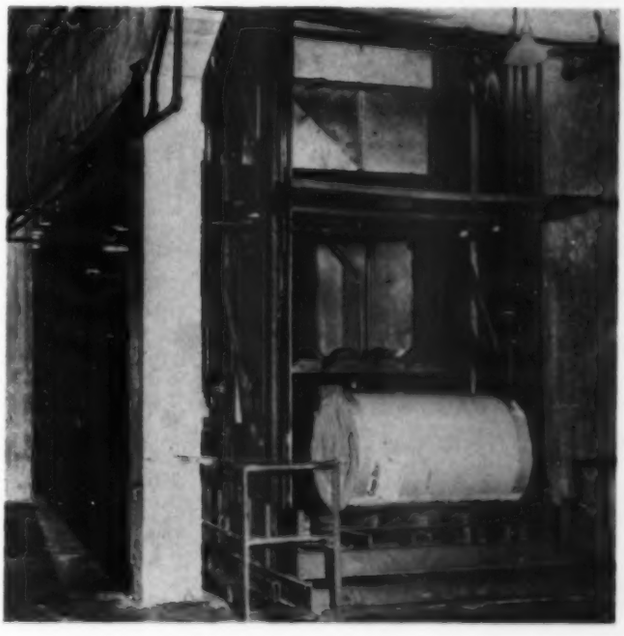


Fig. 2.—Rolls of newsprint are fed into the Link-Belt lowerer from the unloading dock (upper left) and discharged in the basement either to the North or South. The drive for the Lowerers, located at the head end, include a 3 h.p. Link-Belt DM 20 gearmotor with solenoid brake and RC80 chain drive.

up by one of the trays on its ascending run.

The tray elevates it a short distance as the chain travels over the head sprocket, and then lowers it on the descending run. Fingers at tthe unloading position then intercept the roll, and the paper rolls off into the lower floor, while the empty tray continues to descend until the chains travel around the foot sprocket.

Lowerer Arrangement

At the Times-Mirror Co. the vertical travel between floors is about 15½ ft. There are four trays, spaced at about 16 ft. chain centers. The chain travels at 28 f.p.m., making it possible for a roll to be handled every 34 sec.

The lowerers at the Times-Mirror plant are built to handle rolls up to 40 in. o.d., 73 in. long, with maximum weight of 2000 lbs.

The paper is stored in two areas in the basement, to the East and West of the pressroom. Newsprint from either area can be fed readily into the presses, but it cannot be transferred from one area to the other. Total capacity of the two areas is about 5000 T.

One of the lowerers was installed in the West storage area in 1946. This area holds about two-thirds of the paper in storage. Here space was at a premium.

Two-Way Discharge

This lowerer proved successful, so that a similar unit was installed in 1954 to serve the other storage area. However, here a new feature was introduced.

The required location for the lowerer was in about the center of the storage area, making it desirable to provide a two-way discharge mechanism for releasing the rolls to either the North or South of the lowerer.

This was accomplished by means of an additional set of unloading fingers which can be rotated into a down position in order to intercept the paper rolls whenever they are to be rolled out on the South side. Whenever rolls are to be discharged to the North side, this set of fingers is rotated into vertical position, out of the way. The rolls then continue to be lowered until they reach another set of intercepting fingers which discharge the paper to the North.

Operation of the Link-Belt lowerer is continuous, provided paper is fed into the machine fast enough. However, there is a limit switch which can stop the unit if there is no roll of paper in the loading fingers as the tray approaches.

Six other limit switches at various locations can stop the lowerer if the path of the trays is blocked for any reason.

Line Slug Machine Adjustment

At the Great Lakes Mechanical Conference, Hotel Schroeder, Milwaukee, last January, a number of speakers discussed line-composing machine care and adjustment. One of the speakers, however, (Carl Myers of Mergenthaler Linotype Co.) presented an illustrated address on Linotype's Hydraquadder.

Distributor and Distribution

Distributor and Distribution was the title of an illustrated address given by Walter Severin, assistant manager, Intertype Corporation, Chicago branch. Severin's discussion was related to the more standard parts adjustments on distributors. He approached the subject in such manner that the not too highly skilled machinist could more easily comprehend importance of adjustments, how the parts function, and what happens when adjustments are not maintained properly.

He led off by stating that in a 7 hr. day the distributor box lift strokes 136,700 times. During the year approx. 40 million strokes have taken place.

In the distributor box, the upper and lower rails wear first on the vertical faces against which matrices bear while being lifted upwardly between the distributor screw threads. Some inexperienced maintenance men seem to think the box bar point wears. Such is not the case. The thickness of the slot and the side of the matrix body in all matrices is 0.027 in. Now, when two thin matrices seem to want to be lifted into the distributor screws, the vertical faces of the box rails should be inspected to see if there is 0.040 in. space between bar point and vertical faces of the box rails.

Watch the squareness of the lifting lip on distributor box lifts and see that sufficient tension is exerted to pull the lift firmly toward the matrix on single distributor machines.

When a matrix is first lifted into the distributor screws there should be a space of $\frac{1}{32}$ in. between the non-carrying side of the screw thread and the matrix. The lift should raise the matrix so that there is $\frac{1}{32}$ in. between the underside of the upper lug and the top of the rails at the lifting point. If this space is not provided, matrix lugs will be bent.

Actually, on the Intertype Mixer distributor box there are no moving parts. Some machinists have asked why a spring has been applied to the bar point shank.

Severin explained that the bar point slots on all new sets of matrices which have been supplied since advent of the Mixer have been cut long enough lengthwise of the matrix body to clear the bar point freely. But in the case of some outstanding fonts which have been applied to Mixer machines there is an occasional matrix with shorter slot which makes it necessary to provide some "give" action to the bar point which in turn permits the lift to raise the matrix into the distributor screws.

It is true that matrices in the distributor box are at a slight angle to the axis of the distributor screws. But by the time it has been raised between the distributor screw threads it is square with the distributor bar.

Severin explained the font selector mechanism in the distributor. There is no gravity in the action of the lift. The font feelers (which direct the box to either distributor) are adjusted with a 2 pt. thin space so that the feeler points will not contact the second matrix in the box. If the feeler does touch the second matrix, it will trip the box.

In the Mixer distributor, there is no friction in the up-and-down lift stroke. The lift is adjusted by an

"You told me not to spend much time on makeready."

eccentric device attached to the box lift lever itself. The eccentric adjustment device moves in unison with the lifts and the lift lever.

With respect to the channel entrance, Severin explained various adjustments to secure dependable flow of matrices into the magazine.

The Hydraquadder

Carl Myers, field engineer, Mergenthaler Linotype Co., through the use of colored slides, discussed the Mergenthaler Hydraquadder. He explained there is no pressure on the oil in the hydraulic system while the machine is standing idle other than that the oil is kept circulating through the lines ready for operation. He explained that when Hydraquadder goes into action the vise jaws close under practically no pressure until their motion is stopped by contact with a line of matrices. Fluid pressure then builds up until it reaches 150 lbs. per sq. in., which is equivalent to a vise jaw force of approx. 75 lbs. against the matrices. . . . A low pressure relief valve then reduces vise jaw force against the matrix line to a pressure of 12 lbs. to 15 lbs. during vertical matrix alignment. Full hydraulic pressure is again applied during casting. After the cast, pressure is again reduced to allow the vise jaws to be wiped free of metal as the matrix line is moved upwardly to second elevator transfer.

Studs and Blocks

Leonard E. Schneider of Milwaukee Vocational School, presented an interesting description of the procedure to secure proper application of new mold disk studs and vise stud blocks. It was a thorough presentation.

The Use of Mohr Saws

William Christman, of Mohr Saw Co., presented an address entitled *Mohr Saw Time and Cost Saving Services for the Machinist.* The speaker discussed the value of repair facilities and service. He explained that some parts for Mohr saws are not carried in the catalog because it isn't practicable to attempt repair or assembly of certain parts without specialized tools and equipment available at the factory. He cited a number of examples to illustrate the idea.

In answer to the question sometimes asked: "Why don't you recut a tooth in the saw blade when resharpening if it is broken or missing?" He replied by saying that ordinarily a single broken or missing tooth does not impair the efficiency of a saw blade. He also explained that to recut a broken or missing tooth in the saw blade reduces its sharpening life about 80%, and would cost two-thirds the price of a new saw blade.

Preventive Maintenance

Anthony Cobus, Milwaukee (Wis.) *Journal* machinist, explained in detail the linecomposing machine maintenance schedule used in the *Journal* plant.

Ask *Printing Equipment Engineer* for the source of equipment and supplies.

EDITORS ARE FAST —UPON OCCASION

(Abstracted from address delivered by Harvey Schwandner, editorial department, Milwaukee (Wis.) *Journal*, before Great Lakes Mechanical Conference, Milwaukee, January 1956.)

"We're very fast in the editorial department to ask for copy when there is a bad typographical error in the paper. My own policy, established through years of association with some of the finest buck passers in the business, is to yell like hell when we're right, and to shut up when we're wrong. In fact, when we're wrong you can hear the silence clear to Eau Claire, Wis."

Minneapolis *Star* Starts Daily Color

The extensively redesigned Minneapolis (Minn.) *Star*, which made its debut before 300,000 upper midwest subscribers on Feb. 13, began use of full color photos five days a week. Also it is claimed to be the first newspaper to schedule production of spot news color pictures on a day-by-day basis.

It was learned from 11 years of readership studies and reader research that color photos attract the reader's attention more than anything else. To facilitate the use of daily color and other changes put into effect by Publisher John Cowles, a considerable amount of new equipment was installed, says John Copeland, production manager.

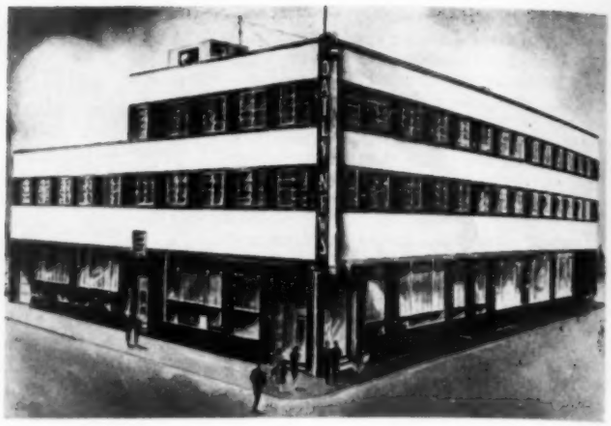
Included is a Dow-Chemco fast etch machine. Both zinc and magnesium plates are being processed in the new etcher. With the new machine, engravers have cut etching time in half. In the stereotyping department, a Sta-Hi Master Matcher (see the accompanying illustration) with mirrors, a precision collimator and a Sta-Hi Master Trimmer for registering curved mats were installed. On order is a new nickeling tank and equipment. It is expected the new tank and equipment will permit nickeling two or three times faster, cutting the time to about 8 min. per plate with six plates in the tank at the same time.

In the pressroom eight double auxiliary ink fountains have been added to the 10 single and 16 double units previously used. Sixteen more double units are expected soon. When the installation of all new auxiliary fountains is completed, Copeland reports, the *Star* will be able to print—on either straight or collect run—full color all the way across all outside section pages and a considerable number of inside pages.

New in the photography color laboratory is a True Fidelity color separation camera. And a two-way radio cruiser car has been put into operation for photographers. By means of a portable UP telephoto transmitter mounted in the car, a Polaroid camera, and a UP Unifax facsimile machine in the *Star* newsroom which eliminates the necessity for developing and printing, the whole process from photographer to engraver can be completed in approx. 10 min. *Star* photographers also have developed a camera which is designed to take pictures 165 deg. wide and synchronized for use with flash. They have another unusual arrangement of a 35 mm. camera mounted on top of a 4 in. by 5 in. press camera. Thus color and black-and-white photos are taken simultaneously.

Donald J. Little (left), stereotyping foreman, and Charles McGuire, mechanical superintendent, look over the new Sta-Hi Master Matcher in the stereotyping department of the Minneapolis (Minn.) *Star*. The machine is used in producing full color news pictures which are appearing five days a week in the newspaper. The Master Matcher helps insure a more accurate registration of color matrices.

McKeesport (Pa.) *Daily News*



The McKeesport (Pa.) *Daily News* is engaged in a major building expansion program. A new two-story addition, measuring 50 ft. by 140 ft. and increasing the plant's floor space by approximately one-third, is being erected on adjacent property. The addition will be tied into the present three-story structure, and is expected to be completed by mid-summer 1956.

Rearranging Plans

Plans call for an enlargement of the plant's newsprint storage space in the basement of the old and new parts and in a storage room on the second floor of the addition. All newsprint storage sections will be automatically humidified and arranged for 10-ft. aisles to permit easy paper handling.

The display advertising department, as well as part of the business office, will be expanded into the first floor of the addition. Also in this part will be mat storage, newspaper file rooms and locker rooms.

In the rear of the addition will be a garage large enough to accommodate 12 cars and trucks. Facilities will be included through which the trucks, at edition times, can be loaded directly by chute from a mailing room on a mezzanine floor above.

The classified advertising department will be expanded on the ground floor of the present building. Also included on this floor will be the offices of the heads of two mechanical departments. The pressroom will occupy enlarged quarters in the present building. The stereotype department will be moved from the third to the first floor, except for its molding equipment. Maple block flooring will be used in the new stereo department.

A high-speed dumb-waiter will carry mats and flat casts between the first and third floors. A chute will be provided to send dead metal from the composing room to the stereotype department on the first floor.

Pressroom Additions

A new Scott unit, with super-imposed color deck, will be added to the present six press units. The newspaper has had multiple color facilities in the past but the new arrangement will afford greater color selectability with up to 60% of the pages in a 48-page paper available for multiple color reproduction. In addition to the new unit, a Wood reel with pneumatic tension will be added.

A mezzanine over the first floor of the addition will include a room for multi-lithographing machines, a supply room, and the mailing room at the rear. A conveyor will carry papers from the pressroom to the mailing room.

The second floor of the addition will provide space for a dust-proof telephone equipment room and newsprint storage space. The second floor of the present building will be completely remodeled. A new wire room, large enough for 16 teletype machines, will be adjacent to the present editorial room. The photographic department on the second floor of the present structure will be doubled in space, providing six dark rooms, two printing rooms, a chemical mixing room and a studio. One printing room will be equipped for color work. The photoengraving department, also on this floor, will be enlarged. It too, will provide for color processing equipment.

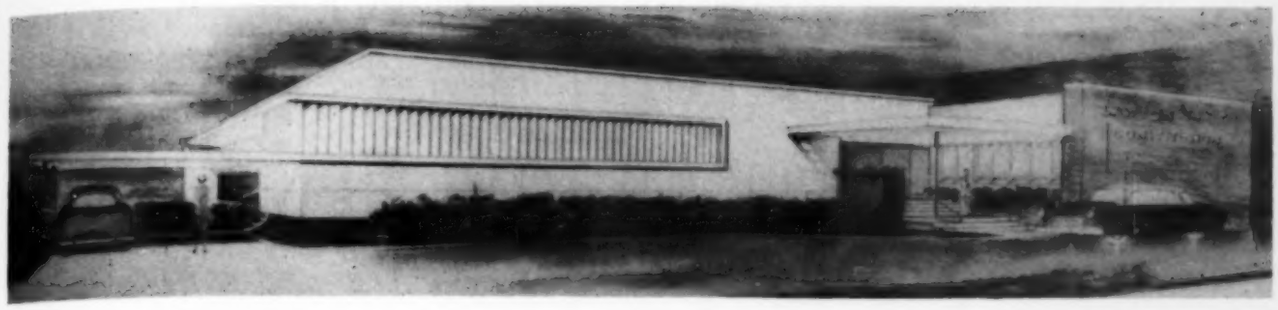
Composing Room Grows

Moving of the stereotype department will enable expansion of the now crowded composing room to occupy the entire third floor of the present building, except for the space required for a direct pressure mat molder and a mat roller.

The entire building will be fire-proof and completely air-conditioned, with air-conditioning and exhaust equipment located in a 26 ft. by 36 ft. penthouse atop the roof of the new part.

With completion of the project, newsprint will be unloaded from the newspaper's own railroad siding by electric grab-truck and then moved by automatic hydraulic elevator to the storage rooms in a one-man operation. The enlarged plant will have storage space for 20 carloads of paper.

Architects for the addition and remodeling are the designers of the original building, Hunting, Larsen and Dunnells, Pittsburgh, Pa. The general contractor is Mellon-Stuart Co., Pittsburgh, Pa.



The Lawton (Okla.) *Constitution* and *Morning Press*

The new plant of the Lawton (Okla.) *Constitution* and *Morning Press* ranks as one of the finest in the Southwest. The one-story with basement building contains 13,201 sq. ft. floor space. The installation cost $600,000. Figures supplied by Architect Paul Harris and Clyde Shelton Construction Co., general contracting firm, show a total of 1640 cu. yds. of concrete were used in the reinforced concrete construction of the plant. The building contains 220,960 lbs. of steel and 15,000 sq. ft. of acoustical tile. It is so well sound-proofed that the only indication office personnel have that the presses are in operation is a violet light on the ceiling of the news room which flashes on when presses start. Floors required 18,000 pieces of 9 in. square asphalt tile. There are 36 principal rooms. Each department (such as business, editorial, circulation or advertising) is in a separate room and each may be reached without passing through the others. Interiors are finished in soft pastel shades; no two departments have the same color scheme. Ceilings are all of composition fiberglass and aluminum strips, with banks of non-glare fluorescent lights set flush within them. All ceilings, and much of the interior walls, are acoustical. There are 523 lights on the ground floor and 237 in the basement. Floors are 8 in. thick concrete slabs, reinforced with steel. The roof is the same, having been designed to carry another story if additional construction becomes necessary. The foundation can carry not only one, but two additional stories. One special feature of the plant is the floor in the composing room. It is a covering of 3/16 in. steel plates which are in turn set on 30 lb. roofing felt which gives a deadening and cushioning effect. Designed by Larrance Tank Corp., the floor requires no maintenance other than periodic moppings. The building is supplied with 43 T. of air conditioning equipment. Divided into five zones, each part of the plant can be cooled independently of the others by remote control. A separate 8 T. unit controls the temperature of the pressroom. The stereotype room is cooled by washed air, as is the mailing room. Prize piece of equipment in the pressroom is, of course, the 40 page Goss Universal press with a maximum speed of about 40,000 papers an hour. An in-plant communication system includes 46 telephones and a loudspeaker system which can reach every strategic room in the building. In charge of the move into the new *Constitution* and *Morning Press* building was Mechanical Supt. William D. Hargraves.

●

I. S. Berlin Press Chicago, Ill.

I. S. Berlin Press will increase its production capacity with a $1 million program in 1956. Facilities will be expanded in the pressroom, bindery, camera department and operations in color processing, lithographic platemaking and in materials handling, says I. S. Berlin, president of the firm.

The I. S. Berlin Press erected its present air-conditioned building six years ago with 145,000 sq. ft. of floor area; two years ago, it added another 43,000 sq. ft. of space.

Added pressroom equipment includes two Miehle two-color presses, which with the one two-color 76 in. offset press just installed, makes a total of 28 Harris and Miehle offset presses with 51 color units, in operation. The increase in color-producing equipment is due to the continuing demand for use of full color printed illustrations by customers says the firm. This also explains why camera work in color and color platemaking facilities are being increased.

In the enlarged bindery, three of the 12 folding machines are being replaced with two more modern machines of increased capacity. An additional Model KK Cleveland folder—44 in. by 58 in. —is being installed; also a Christensen four-station automatic saddle stitcher, equipped with a five-knife trimmer. Added to the present paper cutting machines is an 85 in. Seybold paper cutter equipped with an Auto-spacer.

People Can Be a *Plus Factor*

By WARREN G. WHEELER, JR.*

**Personnel Director, South Bend (Ind.) Tribune and President of Newspaper Personnel Relations Assoc. Abstract of address delivered before Great Lakes Mechanical Conference, Milwaukee, Wis., Jan. 1956.*

PART I.

At one time or another I'm sure you all have wound up with a new apprentice who fails to shape up the way we thought he would. We begin to realize that the clean cut youngster who looked so good when we hired him just isn't going to make a printer, a pressman, a stereotyper, an engraver or mailer. He may be slow to learn or a real trouble-maker, always griping about nothing. He may be lazy or not seem to give a darn. Or he may try real hard but be one of those guys who is all thumbs, a real butterfingers. These are only a few of the types. I'm sure you recognize them.

We waste a lot of time and money with these fellows before we fire them—that is if we ever get around to getting rid of them. The time to fire misfits is before we hire them—not afterward. We have nobody but ourselves to blame if we get stuck with them because there are ways in which we can eliminate a lot of bad apples if we make a little effort. We won't keep them all out, but we will wind up with a heck of a lot less of them.

It takes a little time, time which you probably can't spare, but which a personnel department can give you.

We start with an application blank. It gives us standardized information about all would-be apprentices. Sometimes we can eliminate candidates right at this stage. For example, the lad who misspells a half dozen or more words when filling out the blank. He's certainly a poor risk as a printer. So is the youngster who has had five or six jobs in the last six months. The application tells us what courses he's had in school, whether he's married or single, his military status, his salary needs and many other things about his background.

It also provides us with information that can be checked.

We can call his school and see what sort of work he did there, how he got along with the other students and his teachers, whether or not he worked to full capacity or merely loafed along. We can find out whether he did well in subjects which may have some bearing on his work—typing and spelling for example if he wants to be a printer. The schools can tell us whether he was absent a lot and why and how often he was late.

If our applicant has worked somewhere else we telephone his former bosses and talk to them about him: What sort of fellow was he; how hard a worker; how did he get along with others in the shop; how was his attendance; why did he leave; would you rehire him; what were his strong points; his weak points?

In this way we begin to get some idea of what sort of youngster we are considering hiring. We also want to know what skills he has. That's where testing comes in.

Tests can show us many things. In Detroit, for example, the joint apprenticeship committee for pressmen has a testing program which measures four things:

(1.) *Intelligence*: Will the applicant catch on quickly, will he be able to understand the principles of press operation?

(2.) *His ability to think*: Can he grasp visual relationships of movement between objects; can he see what makes machines tick; how this gear drives another?

(3.) *Form perception*: Can he see pertinent details in objects and pictorial material; can he visually compare figures and lengths of lines?

(4.) *Manual dexterity*: Does he move his hands and fingers easily and smoothly or is

Printing Week at GPO—Public Printer Raymond Blattenberger sits at the keyboard of a Model 5 Linotype machine while Congressman Benjamin Franklin James looks on. This Linotype machine, known as the General Pershing during World War I, began service at General Pershing's army headquarters at Chaumont, France, in 1917 or 1918. It was recently retired and made a permanent exhibit in the Government Printing Office's Harding Hall where it was on view during the International Printing Week observance. The GOP celebrated Printing Week and Benjamin Franklin's 250th anniversary with a program on Jan. 17 in Harding Hall. Congressman James was the speaker. Walter F. McArdle, president, McArdle Printing Co., sang the Star Spangled Banner. Reverend Bernard Braskamp, chaplin of the House of Representatives delivered the invocation and benediction.

he a real eightball so far as coordination is concerned?

A similar program is used in Pittsburgh. Other papers, though probably nowhere near enough, use various types of tests with the same general purpose. There is no reason why most every paper shouldn't make this effort. You don't have to have a personnel department to do it, nor do you have to do it yourself, though you can buy the material. In both cases I have mentioned, the state employment office conducts the testing program. There is no charge and most such offices have a complete test battery for all the printing trades.

Testing can be a useful tool, but I would like to emphasize that tests are far from the whole answer. They are helpful in eliminating applicants who just haven't got the stuff. But most personnel people are the first to admit that a good test score doesn't guarantee good performance on the job. A man may have all the ability in the world. The big question is: Will he use his abilities on the job?

That's why we check with his school and former employers. Personally, I feel that this is a minimum personnel program which any paper could and should use to its advantage.

At some papers, including our own, if the initial information we have gathered looks good, we go a step farther and interview the applicant. We use a form developed by a Chicago firm to keep us on the right track and make sure we don't leave anything out. Our aim is to get a life history of the person in his own words. We start with routine things—his name, address, job history, what he liked and didn't like about his jobs—and move on back through his childhood, school days and activities—until we really start digging into his private life—his family relationships, what he thinks of his wife, his finances, his drinking habits and so on. It gets darned personal. But once you get on the applicant's favorite subject—himself—you would be surprised at how much he will tell you. Sometimes we have trouble turning people off.

The interview usually takes about an hour. That may seem like a long haul. But we feel it is time and money well spent considering the investment we will be making in this man. If he becomes a journeyman and works for us 30 years we probably will have at least $180 thousand invested in him. You known as well as I do that when we spend a few thousand dollars for a machine we usually spend a considerable amount of time and effort before we make a decision to buy it. Thus it seems only sensible that we spend a little time and money to find out all we can about a person before we hire him. He's bound to be more complicated than any machine we buy—the more we know about what he "can do" or may be expected to do the better.

Particularly in these days of change and new equipment and processes it is important that we get apprentices who will fit into our picture and catch on quickly with a minimum amount of trouble.

With our tests completed, the telephone checks made and interview done we have a pretty good bunch of material on our prospective employe. On the basis of what we have we try to rate the man on about 25 different qualities. All this information, with personnel department recommendations, is made available to the department head. The department head has the final say. He does the hiring; we don't, nor do we feel we should. Our job simply is to gather the information that will help him, or you, make an intelligent choice.

It's not a perfect method, but we feel we make far fewer errors than if we just picked people willy-nilly from the grab bag of applicants that come along.

A lot of you probably read about a fly-boy who ran amok in a midwest pressroom a year or so ago. He smashed the press controls, set a fire and held three employes at bay with a gun. It turned out that he was a parolee who had been hird at the request of a clergyman.

That's a rather dramatic example of what can happen when you hire the wrong person or rely on friendship hiring. But I think it does emphasize our point that good selection procedures can do a lot to make people a plus factor for you.

(To Be Continued)

Keller Adds Fifth Miehle Press—Adding to its offset facilities, the D. F. Keller Co., Chicago, recently completed the installation of a new Miehle 38 Two Color Offset Press. In addition to the 38 Two Color, D. F. Keller also operates three Miehle 29's and a Miehle 61 Two Color in its offset department. Pictured checking the operation of the new press are (left to right) Howard Keller, president of the firm; W. J. McWilliams, Miehle Chicago manager, and Lester F. Olsen, Offset Department foreman.

Bekk Smoothness Tester Acquired by Paper Lab

The recent purchase of a new Bekk testing instrument now enables the Paper Laboratory of Electrical Testing Laboratories, Inc., to offer the paper, printing and allied industries facilities for conducting the Bekk paper smoothness test.

The Bekk instrument was developed in the Netherlands and was commercially introduced into this country when Federal Specifications began to call for Bekk smoothness tests. At the present time there is a limited number of these instruments in the United States. Most are owned by mills and are not available to all industry.

Tappi's suggested test method T 479 sm-48 covers the method used at ETL in carrying out the Bekk paper smoothness test. Further information on this service may be obtained from Electrical Testing Laboratories, Inc., 2 East End Ave., New York, N. Y.

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Make Readings Carefully With a Paper Hygroscope

By LITHOGRAPHIC TECHNICAL FOUNDATION

A few months ago, LTF described the use of a correction chart which increases the accuracy and versatility of the LTF Paper Hygroscope. The Paper Hygroscope is a sword type instrument. The blade is inserted into a pile of paper to determine the paper's relative humidity.

With this information, the lithographer can then tell in advance whether the paper needs conditioning to avoid trouble from wavy edges, tight edges, or poor register. The instrument can also be used to check pre-conditioned paper to see if it is actually as specified.

The correction chart that LTF prepared was based on data that had been collected from many tests made under a wide variety of conditions. Measurements were also made with several types of swords.

When the lab set up these tests, it first had to establish a standard set of conditions, that is, a standard procedure for making each of the many individual measurements. One of the decisions that was made was to take hygroscope readings after the probe had been in the pile for exactly 1 min. It was believed that this 1 min. time interval was a good compromise for different types of sword hygrometers and different ages or moisture sensitivities of the gold beater's skin in different instruments. It was also fast enough to be practical and still produce accurate results. The correction chart published was therefore based on test hygroscope readings made after the sword had been in the pile of paper for exactly 1 min.

Another method that could have been used to develop similar data for a correction chart would have been to use equilibrium r.h. readings. An equilibrium reading is the maximum r.h. figure that can be obtained from the paper. To get such a reading, it would be necessary to move the probe to different places in the paper pile until the r.h. reading on the instrument was as high as it would get.

Some time after the chart was published, LTF was questioned by a lithographer. He was checking the r.h. of some paper delivered from the mill to see if it met his plant's specifications. His corrected r.h. figures after using the chart did not jibe with those from the paper mill. The situation finally boiled down to a case where one was using 1 min. readings and the other equilibrium readings.

In checking the results from the two organizations even LTF was surprised at the rather wide differences in the calculated r.h.'s that resulted from just using different methods of reading the Hygroscope. So, more tests were made under controlled conditions to see exactly how critical this factor was.

The relative humidities of four piles of paper were measured with the latest model LTF Paper Hygroscope. This is a deviation type of instrument. It shows only the amount of difference between the r.h. of the room and the r.h. of the paper. It does not measure the actual r.h. of the paper.

From four to six different 1-min. readings were made in each of the four piles of paper and at different levels in the pile. These readings were averaged to give an average 1 min. reading for each pile.

Then, equilibrium readings were made. The sword was inserted into the pile and the reading was noted. The position of the sword was changed once a minute until there was no further change in the Hygroscope's readings. This took from 6 min. to 7 min. for the first four piles of paper. As before, from four to six measurements were made at different levels and the results averaged for piles 1 through 5A in the accompanying table.

The No. 5 pile of paper was 38 deg. F. colder than the room. Two "equilibrium" readings (A and B) are shown for this pile. The 5A readings were made after the usual 6 min. to 7 min. The 5B readings are from the same pile after the sword reached equilibrium—a process that required 2 hrs. The 5A readings are of interest only for comparison with the 5B readings.

These average 1 min. and equilibrium readings were corrected for differences in room temperature, paper temperature, and room r.h. using the alignment chart. The r.h. of the different piles of paper was also computed without using the chart. This was done by adding or subtracting the equilibrium readings from a measurement of the room r.h. made with a sling psychrometer.

In the table, notice the significant difference between the 1 min. readings and the equilibrium values. Corrected r.h. values for 1 min. readings (Col. A) are fairly close to the values found by adding or subtracting the equilibrium readings from the room r.h. (C). The one exception to this is 5A which does not show the true equilibrium reading. There is quite a bit more difference between the equilibrium values that were corrected with the chart (Col. B) and the uncorrected readings in Col. C. This is noticed especially where the B values were negative. Data in more detail were collected in further tests. These substantiated the figures reported here.

The 5A and 5B readings illustrate the extent of error that is possible when the paper is considerably colder than the room and sufficient time is not taken to get a true equilibrium reading.

LTF's Recommendations

You can get a reasonably good paper r.h. value by adding or subtracting the equilibrium r.h. value as shown by the Paper Hygroscope from the room r.h. as determined by a sling psychrometer. However, it is safe and practical to do this only when the paper temperature is the same as the room temperature or if there is only a 1 deg. or 2 deg. F. difference.

On the basis of these tests, the only way that the alignment chart can be used is to stick to the system around which it was developed. This means that the sword should be inserted in the pile of paper and the reading taken after it has been there for exactly 1 min.

Paper Pile No.	Average 1 min. Reading	Average Equil. Reading	Room Temp. deg. F	Room r.h. %	Paper Temp deg. F.	Paper r.h. using alignment chart		Paper r.h. from Room r.h. — Equil. Reading (C)
						1 min. Reading (A)	Equil. Reading (B)	
1	2.3	4.5	81	43	80.5	45.9	49.8	47.5
2	−7.5	−17	74	47	77.5	34.5	ca. 20	30
3	−1.1	−3.7	74	33	75	31.5	ca. 21	29.3
4	1.0	3.8	75	34	74	36	41	37.8
5A	1.3	7.3	78	21	40	35.3	44.8	28.3
5B	1.3	15	78	21	40	35.3	36.0	37.0

This should be done with old and new models of instruments, and those that read r.h. directly or as a difference from the room r.h.

The use of 1 min. readings and the correction chart is much more practical than the use of equilibrium readings even though a stop watch may be needed for exact timing in some cases. When making measurements, LTF suggests that you make several readings and average the results. This is especially desirable when the needle is still moving fast when the 1 min. time is up.

If these procedures are followed, the corrected r.h. values of the paper will show variations of only about $\pm 2\%$. Such variations are within the acceptable limits of precision to be expected from an instrument like the Paper Hygroscope and are accurate enough for all practical purposes in a litho plant.

"Get Skill—Not Repetition" In Daily Newspaper Production

At the Monday, January 30 session of the Milwaukee (Wis.) Great Lakes Newspaper Mechanical Conference, President Leroy Schulz, who is pressroom superintendent of the Milwaukee (Wis.) *Journal*, opened the meeting by introducing Irwin Maier, executive vice president of the *Journal*, who spoke on *The Job We Face*.

Those who served on a panel to answer questions from the floor consisted of: Chairman Paul Brannon, pressroom superintendent of the Cleveland *Press;* Co-chairman Milo Bildner, pressroom superintendent, Kalamazoo (Mich.) *Gazette;* Frank Dassori, pressroom superintendent, Detroit *Times;* Leon A. Link, production manager, Forest City Pub. Co., Cleveland; Curtis White, pressroom superintendent, Indianapolis (Ind.) *Star* and *News;* Eric Maas, pressroom superintendent, Milwaukee (Wis.) *Sentinel*, and Robert Adams, pressroom superintendent, Canton (O.) *Repository*.

Executive Vice Pres. Maier, in speaking of the necessity for cutting costs in newspaper production and keeping the newspaper out in front in the communications field, did no scolding but gave a constructive address. He said that because of the separate skills involved in newspaper production, teamwork is paramount. He said: "I take off my hat to the men on the smaller papers who do a variety of jobs and do them well. On the larger paper, however, a different situation exists, making teamwork of greatest importance."

Maier said that newspaper publishing is just about the most expensive business there is. Only radio and television are more extravagant in their production methods. He contrasted newspaper publishing with the operation of a factory in which a firm can design and produce a product and then devote all its energies to making mass production of the product more efficient.

"On big papers, for instance, the stereotype department thinks it's the most important department. Facts are that all of the departments are of equal importance. Each department contains a group of specialists, making teamwork of utmost importance. Specialization, however, brings higher costs and jurisdictional disputes tend to up production costs.

"In our business, every line of type is different and is thrown away soon after it is made," he said. "Newspapers, therefore, cannot profit by repetition and standardization the way a small factory can. . . Sure, we get skill, but not repetition."

Maier said newspapers faced serious cost increases. They must study carefully proposed rate increases to make sure they will be able to compete with other advertising media. Newspapers must first think of ways to cut out waste, unneeded practices and attempt to secure increased efficiency through modern equipment.

Questions and Answers

Immediately after conclusion of Maier's address, Chairman Brannon conducted the question and answer period. Someone wanted to know if it was practical to cut all rolls at one time during collect runs. Emmett Flanagan, pressroom superintendent of the Forest City Pub. Co., Cleveland, said it could not be done in his pressroom because he has no capacity for rewinding equipment. In Canton, O., Robert Adams changes rolls at one time. However, after the third roll change he gets good sized butts. In his plant time is saved. He tries to change on three rolls. Everett Hall, pressroom superintendent, Detroit *News*, said he starts his presses for first edition (10,000 copies) with full rolls to get the edition out as quickly as possible.

Production of decals is speeded at Palm Brothers Decalcomania Co., Cincinnati, O., by an air conditioning system which includes humidity control. To prevent such difficulties as paper sticking, inks failing to dry, static electricity, uncontrolled expansion or contraction of film, the company found that a relative humidity of 50% at a maintained temperature of 75 deg. F. was ideal. A Kathabar unit, made by Surface Combustion Corp. was installed together with dry coil after-cooling to hold these conditions. The Kathabar unit is supplied with a lithium chloride-base solution to absorb moisture from the air for exact humidity control. The salt in solution is used to remove more moisture when cooled, release it when heated. Shown here is the 1350 c.f.m. Kathabar unit installed at Palm Brothers. The air washer section is to the right, the regenerator section in the center. The cooling coil for summer operation, to the left, and spray humidifier for winter operation, above the coil, also are shown.

The Dayco color separator was discussed at some length. Curtis White praised them highy. Their use makes it possible to avoid cutting rollers when running color in the paper and saves considerable time in getting the press ready. He said, however, that he can't get the stroke of the oscillating roller down short enough to run two solid contrasting colors on adjoining pages. He has run as many as four colors across the unit. Someone asked him if he had to kill oscillation to printing two colors on adjoining pages. "Usually," he explained, "we get by through killing oscillation on one drive with 1¾ in. oscillation stroke on the other drum.

R. R. Richter of the Dayton Rubber Co., said press inking mechaniams vary with different makes of presses. Some have as short as ½ in. to $\frac{7}{16}$ in. stroke, but this minimum motion is not recommended. Mounting the dividers on the press is dependent on the make of press. He suggested that the dividers not be mounted too close to the fountain feed, but would operate better as far forward of the form rollers as possible.

Someone asked whether anyone was having trouble with ink hickies or particles of ink skin when first starting a run. Frank Dassori stated that it is customary at the Detroit *Times* to agitate the ink in the fountain with 25 lb. pressure air 5 min. before commencing the press run. Inks should be pre-mixed if for no other reason than to get suspension.

The next question was related to color ink piling in halftone areas. The printed effect is like that of a shallow cut. It was suggested that when toning color inks, the use of a lot of white in the ink should be avoided. It seems that on red and blue inks there is no fill as complained about in the question.

In answer to the question: Do color inks have the same coverage as black ink? Production Mgr. Leon A. Link, Forest City Pub. Co., Cleveland, asked what is meant by coverage. He said all advertisements vary in ink consumption in an edition all the way from 75 lbs. to 600 lbs. per page according to the density of the advertisement. He feels there is no way to determine the amount.

Someone wanted to know whether or not it is wise to choose special newsprint rolls for r.o.p. color runs. The second part of the question was: "Should we order special paper for color or use the best we have?" The consensus was that as perfect-circle rolls as possible be set

aside for color work. Choose as white a paper as possible and allocate the yellowish paper to the black presses. Another executive suggested that the one who asked the question should try to run topside of the sheet for color. If no other choice is available, just work with the best paper in the available supply.

Humidity Paper Control

The next question was related to humidity control in the paper storage room, the stripping room and the pressroom. After some informal discussion, Mechanical Supt. Harry Miller, Dayton (O.) *Daily News*, said his firm was in process of having a new building erected. In studying the newsprint humidity control subject in the storage room, the *News* was working for installation of a control which would provide 75 deg. temperature with 53% r.h. The major idea is that the equipment to be installed will condition the paper so that static and web breaks will be eliminated. After the equipment has been installed he will keep records and report at a later Great Lakes conference.

Frank Dassori remarked that on summer days in Detroit when there is humidity in the air the paper works best. During winter days when the atmosphere is dry, trouble with static is experienced. He said the Detroit *Times* is now experimenting with humidity controls. Report will be made later.

Golden Faris, mechanical superintendent, Indianapolis (Ind.) *Star* and *News*, discussed the air conditioning equipment in his plant. In answering a question, he said the humidity in the reel room is kept at 60 to 70 and in the pressroom at from 60 to 65. During the discussion he said he wouldn't advise anybody to install an air wash system.

In answer to a question it seems that no one uses special rollers when printing color. Eric Maas said he just uses a cleaning fluid to clean the rollers when changing to color. Roy Schulz reported use of a doctor blade and pan device which is attached to the press when cleaning rollers with a fluid. Curtis White reported the stereotype department made up blank printing height plates which are used in connection with the web to clean rollers. O'Neil reported that a full width web is wound between and around rollers until there are five or six layers on the drum. The paper is then stripped from the drum. There is not much waste of paper involved.

For removing gouges and damaged edges in newsprint rolls, Leon A. Link reported the use of an electric drill to which is attached a tool in place of a drill bit. The tool itself is shaped about like half a golf ball with file-like surface.

Maintenance Schedules

There was some discussion related to pressroom maintenance schedules. Everett Hall, pressroom superintendent of the Detroit *News*, stated that because the *News* presses are kept busy during the day, a night maintenance crew is being started. The new crew will also get presses ready for next day's operation.

Complaints About Cuts

One of the final questions was asked: "Does anyone here have trouble with newsprint cuts?" Leon Link said he would like to change the question to: "Is there anyone here who doesn't have trouble with complaints about newsprint cuts?" Apparently everybody was familiar with criticisms regarding the appearance of cuts in the paper. One of the executives stated that as soon as any of the pressmen see something wrong with a cut word is passed "upstairs" asking what's wrong with it.

Searching Analysis
of Newspaper Composing Room
Costs

By HARRY EYBERS*

**Production Manager, Washington (D.C.) Post and Times-Herald. Abstracted from address delivered before Great Lakes Mechanical Conference, Milwaukee, Wis., Jan. 1956.*

PART II.

Manning for Peak

The news department copy deadlines cannot be overlooked. News deadlines alone can almost fix high or low cost of composing room news operation. Some newspapers send down much early copy that can be handled on the machines in long takes and allows the makeup of early pages. Other newspapers try to set their entire news hole in 3 or 4 hrs. This means more news machines, more news operators because of short take system, and more makeup men because of the shorter time left for makeup. This forces the composing room foreman to man his room for the peak load if he wants to get out and also means more equipment to handle this peak load.

The location of the newspaper and whether it is an afternoon or morning paper also controls cost. Some newspapers located in areas where there is a lot of interest in horse racing or sports in general will carry columns and columns of agate tables and tabulation which is difficult and slow to set. Many other newspapers do not carry this type of news or, if they do, very little of it. A morning paper can comfortably handle market tables and all other difficult news composition in long takes while the afternoon paper has a short time to set this news and is forced to cut it into many short takes. Added to that, there is a vast difference in the amount of market news carried by newspapers and it is all difficult and slow to set.

Geographical Influences

As I have indicated before the length of takes exerts a big bearing on the cost of setting news. Approximately 75% of all the wire news

News Pictures at Sea— Staff Captain Corrado Pinotti of the Italian Line's Luxury liner Cristoforo Colombo stands by the Cadet Model Fairchild Scan-A-Graver electronic halftone engraving machine. By use of this electronic device the ship's paper will be able to carry late news photos received by radio-photo plus shipboard activities photographed by the ship's photographers. The photo print is placed on the cylinder at the right while a sheet of 6 in. by 8 in. special plastic is clamped to the left cylinder. A photoelectric cell scans the photographs and translates what it sees into impulses to a stylus which cuts the halftone dot pattern into the plastic. This is the first Scan-A-Graver to be installed on a ship.

comes out of the East. This means eastern newspapers are setting most of this on current time and means the short take system. A paper in the Midwest has one hour more to set this news which means it can nearly double the size of the takes to the machines. In the Rocky Mountain area they have another hour, making it possible for them to set the type in even longer takes and more time to process, proof read and make up. When you get all the way out to the West Coast there is actually three hours difference in time and those lucky people on morning newspapers can be setting the same copy in the late afternoon that we people in the East are setting right up to edition time. So much for cost of news composition.

Nature of Advertising

The nature of the advertising carried by newspapers must also be considered. Some newspapers run a large volume of grocery, electrical appliances and local liquor advertising. This is difficult and costly composition. Because of market conditions, it is impossible to get early copy on this type of advertising. Also, again because of market conditions, many late changes of copy and rehashed proofs are handled. This type of composition is loaded with type to set, difficult mixed matter and many combinations. Other newspapers do not carry advertising of this nature. It certainly would not be possible to compare page costs with a newspaper running this type of difficult composition with another paper that does not or whose advertising copy is composed mostly of wide open ads or simple composition.

While on the subject, advertising deadlines must also be considered along with the number of proofs and revises allowed. Some newspapers operate on a 48 hr. deadline, some get even more time than that for ad composition. Many newspapers are less fortunate and are compelled to furnish proofs in 24 hrs. Some are even forced to give overnight service. This, as you all know, has a terrific bearing on composing room cost. There are some newspapers that operate on a one-proof service with no revises. Some allow one and two revises but there are actually some newspapers that will revise an ad five and six times. Some papers actually accept complete tear-ups between editions. This forces the composing room foreman into the position of manning his ad room for these peak loads or overtime. It stands to reason that the composing room with the 48 hr. or more deadline can certainly man its room with less power than the composing room that has less time and can't control the number of revises or is forced to accept complete tear-ups between editions. Yet again, these papers will still carry the same number of pages in their city edition used for figuring page cost.

Other Influences

Equipment, the composing room layout and even the building structure represents an important part in composing room cost. There are all types of composing rooms. The ideal one, of course, is the modern well equipped room. This type composing room usually has high employee morale, low maintenance cost and no loss of down time because of equipment failure. It also is supplied with modern keyboard machines which means faster running news machines, and ad machines equipped with quadders, saws, and mold cooling blowers. Hand composition is held to a minimum with most of the display type on the keyboard. It would also have mixers to make difficult ad composition simple and fast to set. A well laid out room means less steps and less nonproductive or lost time. A modern room would have a complete non-distribution system and plenty of material to work with.

I am sure you will agree there are still a lot of poorly equipped composing rooms with old slow-running machines, with high maintenance cost and lots of down time, with outdated and poorly equipped ad machines, lack of mixers or machines capable of setting large display type. There are also composing rooms that are dirty, poorly lighted and badly laid out. This means low production from the machines, more machinists to keep the machines going, more type to set by hand, mixed matter to cut in by hand, more hand sawing, loss of time while waiting for the saw and more walking than necessary. There are actually some composing rooms that operate on two or more floors. This certainly causes a lot of lost time and non-productivity. All these add up to only one thing—high cost and bad employee morale. It is only natural that the better and more capable employees go to the better equipped shops leaving only the less desirable with the poorly equipped shops. This does not help reduce cost.

It is easy to understand why publishers are so much concerned because the costs involved in producing a newspaper are increasing to a point where it can to a great extent endanger the future of this business. Maybe under present conditions we can stand the gaff, but what happens when we start to level off? The revenue will go down but the cost will remain up. What is so cockeyed about all this is that management has not known more about composing room costs and therefore does not understand what causes it to increase.

I have tried to explain to you the difference between an economically and soundly operated composing room and one of high cost and waste. Now, the rest of the job is in your laps. You must do a selling job to management to get the ideal operation.

(Concluded)

Union Officers Reelected — All officers of the International Printing Pressmen and Assistants' Union of North America have been reelected for another four-year term, according to an announcement by the union's board of electors. Reelected were Pres. Thomas E. Dunwody and Secy.-Treas. George L. Googe of Pressmen's Home, Tenn.; Vice Presidents Alexander J. Rohan of Washington, D. C., Anthony J. DeAndrade of Boston, Walter J. Turner of Los Angeles and F. W. Maxted of Aldershot, Ont., Can.; Home Trustees John L. McFadden of New York, N. Y., and John G. Warrington of St. Louis; Technical Trade School Trustees Walter A. Curran of New York, N. Y., E. Curtis White of Indianapolis, Ind., and James F. Doyle of Chicago. The officers will be installed at the quadrennial convention of the Printing Pressmen's Union in Philadelphia, September 24-28.

Equipment Sales and Installations

Reports

Rosback Installations

Recent installations by the F. P. Rosback Co. have been announced as follows:

Rosback Auto-Stitchers: Oxford Press, Los Angeles; Independent Type Crafts, Pasadena, Calif.; Mercury Business Systems, Los Angeles; Great Western Publishing Co., Denver, Colo.; Hemingway Corporation, Waterbury, Conn.; Hunter Press, Hartford, Conn.; Darien Review, Darien, Conn.; Pensacola Engraving Co., Pensacola, Fla.; Washington (Ga.) *News-Reporter;* Franklin Printing Co., Chicago; Sword of the Lord Publishers, Wheaton, Ill.; Hohenadel Printing Co., Rochelle, Ill.; Frye Printing Co., Springfield, Ill.; Augustana Book Concern, Rock Island, Ill.; Low's Reproduction Service, Chicago; Service Printers, South Bend, Ind.; Hacker Bindery, Indianapolis, Ind.; Peerless Press, South Bend, Ind.; Cornay Press, New Orleans, La.; University of Maine, Orone, Me.; Casco Printers, Portland, Me.; Knowlton & McLeary Co. Inc., Farmington, Me.; College Press, South Lancaster, Mass.; American Press, New Bedford, Mass.; Braum & Brunfield, Ann Arbor, Mich.; Pipple-Patterson Co., Grand Haven, Mich.; Gilson Press, Grand Rapids, Mich.; Labor World, Inc., Duluth, Minn.; Clark Printing Co., Kansas City, Mo.; Inland Printing Co., Springfield, Mo.; University of New Hampshire, Durham, N. H.; Service Printery, Inc., Asbury Park, N. J.; White Eagle Printing Co., Trenton, N. J.; Spes Foundation, Oak Ridge, N. J.; Onondaga Printing Co., Syracuse, N. Y.; Hudson Bindery, New York, N. Y.; Proper Press, New York, N. Y.; Sale Lithograph Co., Buffalo, N. Y.; Mitnick Bros. Bindery, Inc., New York, N. Y.; Altman Bookbinding Co., New York, N. Y.; Von Heill Bindery, Brooklyn, N. Y.; Herald Press, Charlotte, N. C.; Carmichael Printing Co., Winston-Salem, N. C.; Toledo Trade Bindery, Toledo, O.; Blade Printing Co., Toledo, O.; Stratford Press, Cleveland, O.; West Publishing Co., Apollo, Pa.; Sidney Higgins Co., Providence, R. I.; State Commercial Printing Co., Columbia, S. C.; Bellaire Printers, Inc., Bellaire, Tex.; University of Virginia Press, Charlottesville, Va.; District Litho Co., Washington, D. C.; William & Heintz Co., Washington, D. C.; Eric V. Curtis Co., Washington, D. C.; U. S. Government Internal Revenue Service, Washington, D. C.; *Congressional Quarterly,* Washington, D. C.; Beloit Litho Co., Beloit, Wis.; Inland Press, Milwaukee, Wis.

Rosback Twenty-two Special Perforator: Casco Products Corp., Bridgeport, Conn.; Citizen Tribune Printing Co., Springfield, Ill.; State of Indiana Reformatory Industries, Pendleton, Ind.; Haag Bros. Printers, Louisville, Ky.; Journal Printing Co., Shreveport, La.; Howard D. Strother Printing Co., Inc., Baton Rouge, La.; The Marksville (La.) *Weekly News;* Mt. Royal Printing Co., Baltimore, Md.; State Mutual Life Insurance Co., Worcester, Mass.; Greenfield Top & Die Corp., Greenfield, Mass.; The Newton (Mass.) *Record;* Co-op GLF Exchange, Inc., Ithaca, N. Y.; Colahan Printing Co., New York, N. Y.; Ay-One Bindery, New York, N. Y.; Floyd Van Wicklin, Rochester, N. Y.; Photographic Derivations, Rochester, N. Y.; Aclaim Hosiery Mills, Inc., High Point, N. C.; F. J. Heer Printing Co., Columbus, O.; Central High School, Muskogee, Okla.; New System Laundry, Portland, Ore.; Great A & P Tea Co., Pittsburgh, Pa.; First National Bank of Scranton, Scranton, Pa.; Elco Printing Co., Philadelphia, Pa.; Cumberland Presbyterian Publ. Board, Memphis, Tenn.; Nederland Publishing Co., Nederland, Tex.; Houston Oil Field Material Co., Houston, Tex.; Quality Printing Co., Neenah, Wis.

Rosback Pony Vari-Speed Perforator: A. Carlisle & Co., San Francisco, Calif.; The Alden Press, Boston, Mass.; Golden Ruling & Binding Co., St. Louis, Mo.; J. L. Kagno Co., New York, N. Y.; Western Printing & Litho Corp., Poughkeepsie, N. Y.; Otterbein Press, Dayton, O.; McDonald Printing Co., Cincinnati, O.; American Bond Printing Co., Oklahoma City, Okla.; The Todd Co., Philadelphia, Pa.

Miscellaneous: Rosback 300 Series Slot Rotary Perforator at Ivan Allen Co., Atlanta, Ga. and Educator Supply Co., Mitchell, S. D. Rosback Gang Stitcher 10 Staple at Kentucky Printing Co., Louisville, Ky. Rosback Super XX Heavy Power Perforator at Atlantic Loose Leaf Co., Philadelphia, Pa. and Tennessee Preparatory School, Nashville, Tenn.

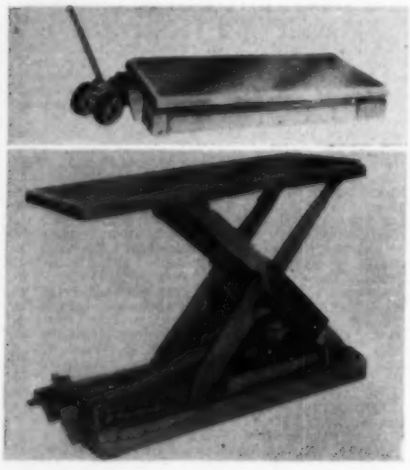
Equipment & Supplies

(Continued from Page 34)

tary to the color in the original subject. This is said to offer considerable advantage for color print making, because these films have a built in mask which compensates for the tendency of the dyes in a color film to produce colors of reduced purity. Daylight exposure index for the new Kodacolor Film is 32. Typical flash guide numbers when using clear No. 5 or No. 25 bulbs in a 4 to 5 in. polished reflector are given as 110 at 1/50; 95 at 1/100; 70 at 1/200 sec. Film will be sold only without a processing charge included in the price and will be available in roll film sizes 127, 120 and 620, 116 and 616 and 828. For further details, please mention PEE No. 69 in your request.

Portable Lift Table

The Southworth Machine Co. recently announced the Southworth Lift Table, which, because it is portable, can be used with sheet feeding machines, presses, die presses, gluers,



The upper illustration shows Southworth Machine Co.'s Lift Table in collapsed position, lower illustration in open position.

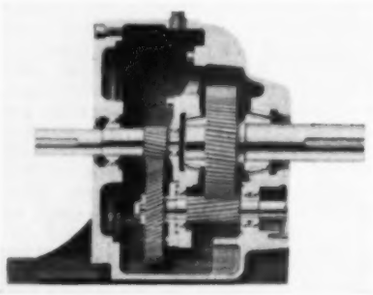
varnishers, for sorting and inspecting. The table is designed to keep materials at the correct working height. An electrical control system enables the operator to raise or lower the table by touching a hand or foot switch. The portable unit is available with tables 24 in. by 52 in., 36 in. by 52 in. and 48 in. by 52 in. Its collapsed height is 7½ in. while extended height is 38 in. The table is also available in a stationary model. For further details, please mention PEE No. 78 in your request.

Roller Cleaners

Jomac, Incorporated recently announced that all its roller cleaners will be equipped with nickel-plated rollers instead of the former cadmium plating. The nickel-plated rollers are said to provide a rust-proof, smoother surface and lengthen the life of the machine. Jomac roller cleaners are used to clean dampener rollers on offset presses and for breaking in new dampeners. The roller cleaners, equipped with a stainless steel tank, are made to accommodate rollers ranging in sizes from 38 in. to 96 in. long. For further details, please mention PEE No. 71 in your request.

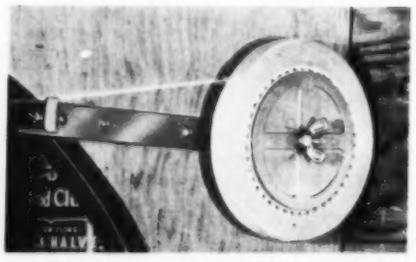
In-line Helical Gear Drives

To help meet speed reduction problems Link-Belt Company has developed a line of in-line helical gear drives. Double reduction drives are available in ratios from 6.2 to 1 through 38.4 to 1, with capacities up to 118 h.p. Triple reduction drives are available in ratios from 47.1 to 1 through 292 to 1, with capacities up to 20 h.p. One-piece cast iron housings with oil seals at shaft openings are said to prevent oil leakage. The cast iron construction is stated to have inherent sound deadening properties. Hardened gears are produced on modern hobbers and then shaved. All moving parts are splash lubricated and aligned. The pinion is straddle-mounted for shock, reversing or heavy loads. It is said to be unnecessary to change the low-gear set in order to alter the ratio. The design of all drives permits the addition of an integral positive-locking backstop at any time without modification. For further details, please mention PEE No. 103 in your request.



Pressure-Sensitive Tape Dispenser

A dispenser for use of pressure-sensitive tape has been announced by Minnesota Mining and Mfg. Co. Called the M-73 Scotch brand bracket dispenser, the unit is designed to accommodate most of the more than 300 types of Scotch brand pressure-sensitive tape in widths up to 1 in. Dispenser can be permanently mounted with two screws provided with each unit. Mounting for artists may be on the edge of their drawing boards; printers, under or over typesetting cabinet; or on almost any bench, table, or shelf. For further details, please mention PEE No. 84 in your request.



Improved Model V-50 Miehle Vertical

Changes in the Model V-50 Vertical, manufactured by Miehle Printing Press and Mfg. Co., were recently announced by Carlton Mellick, vice president of sales. The inking mechanism has been redesigned and now includes two different sized form rollers, one 1¾ in. diam. and one 2 in. diam., plus additional friction driver steel rider roller. For printing rigidity, a cylinder journal impression tie bar has been incorporated. The impression tie bar also provides additional rigidity in the cylinder assembly. The 1956 model Miehle Vertical will be equipped with Dexter Conde Air Pumps of the rotary vane type. For further details, please mention PEE No. 70 in your request.

Fork Lift Truck Attachments

Two accessories for safe materials handling are now available from Towmotor Corporation. These include an Overhead Guard attachment designed to provide protection for operators of Towmotor Fork Lift Trucks by shielding the driver from materials that may fall from unwieldy loads being transported or high stacked.

Another accessory is the Carton Clamp. This hydraulically operated device is used to handle multi-unit loads of cartons, cases, packages and similar objects. The Carton Clamp, which eliminates the need for pallets, is equipped with arms with rubber covered faces for load protection. Pivot mounting facilitates pickup of the multi-unit loads. Suspension of the clamping mechanism and detachable couplings on the hydraulic lines facilitate removal of the Clamp. For further details, please mention PEE No. 73 in your request.

Dial-a-Plate Printer

An automatic Dial-a-Plate printer, which combines a vacuum printing frame and a light source in one enclosed exposure unit to produce plates, has been introduced by Robertson Photo-mechanix, Inc. The Robertson Dial-a-Plate is designed for making pre-sensitized offset plates. It is also for use with albumen and deep-etch plates, for use with sensitized papers in such reproductions as blueprints, slide films, and multicolored proofs, and for zinc, copper, and cold-top enamel. The two Dial-a-Plate models, 1016 and

2024, are different in size but the same in operating features. Model 1016 is designed for use on a table for plate sizes up to 10 in. by 16 in. Model 2024 is a floor standing printer which can be used to handle individual plates up to 20 in. by 24 in., or can take two 10 in. by 16 in. plates simultaneously. The floor model is equipped with storage shelves beneath the printing unit. Features of the Dial-a-Plate printer are a sealed mercury arc lamp which is matched to the pre-sensitized plate emulsion; a parabolically-shaped reflector which is used to aim light rays at the plate perpendicularly, and a light integrator which is used to control the plate exposure. Under average conditions the mercury arc lamp will operate for months without replacement and at low electric current costs, states sponsor. The lamp is constructed with a glass jacket enclosure. Both Dial-a-Plate models are housed in flecked grey steel enclosures. Model 1016 is 22½ in. wide, 28½ in. deep, and 20½ in. high. Model 2024 is 33½ in. wide, 29 in. deep, and 59½ in. high. Negative and plate are placed in the

The Dial-a-Plate Model 2024 for plate sizes up to 20 in. by 24 in., manufactured by Robertson Photo-mechanix, Inc.

printer right side up. Then the operator dials a plate by setting a control knob on the front of the unit. The integrator is used to regulate the light to give uniform plates. The printer is equipped with a double thickness glass lid, framed by a metal drawer holder with lock releases set into its two handles. The glass lid opens for loading when releases are pressed. Wires and tubes are concealed within the Dial-a-Plate's steel enclosure. The vacuum pump and rubber blanket are connected by a plastic air tube. The pump and motor unit is enclosed in the rear of the printer. For further details, please mention PEE No. 66 in your request.

Screen Process Chemicals

Two McGraw Colorgraph Co. products have been announced to aid in preparing screen process photo stencils. Dichromate Sensitizer is being packaged by McGraw Colorgraph in 2½ oz. plastic containers, each holding enough Potassium Dichromate to make 1 gal. of solution. Speed Booster, also packaged in premeasured quantities for use with Dichromate Senitizer, is said to speed up the process of exposure by two and a half times. For further details, please mention PEE No. 79 in your request.

New Label Designed

First shipments of paper bearing the company's new labels are now

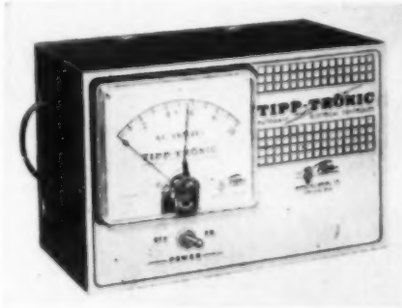
leaving the mills of New York & Pennsylvania Co. The orange label bearing the words, Paper From the Mills of New York and Penn, New York & Pennsylvania Co., Pulp and Paper Manufacturers, is on the shipments. The label comes in two sizes, identical in design, 11 in. and 4 in. in diameter. Lettering is in black and white. Design of the label is part of the New York and Penn's distribution and marketing campaign. For further details, please mention PEE No. 83 in your request.

Photolith Emulsion

Ortho A, a Photolith emulsion with extended sensitivity for halftones and improved background dropout, has been announced by the Du Pont Photo Products Dept. Photolith Ortho A replaces the older Type 700. Ortho A is said to retain the high contrast characteristics of Type 700, while dot etch performance has been improved. The emulsion, on standard acetate base, will be converted later to the Cronar polyester photographic film base. For further details, please mention PEE No. 63 in your request.

Automatic Safety Controller

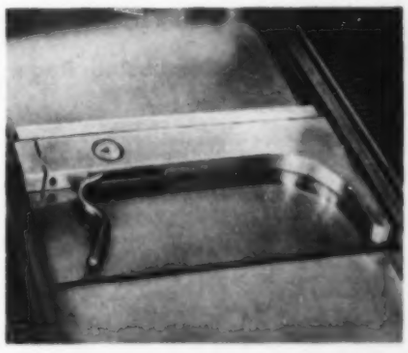
An automatic safety controller, which provides warning and prevents



damage from abnormal load conditions on electrically driven conveyor systems, is announced by Tipp Manufacturing Co. This self contained package is used to automatically shut off the conveyor system at any predetermined load setting. The Tipp-Tronic, as the electro-mechanical device is called, is used to measure and act upon variations from normal load over a wide range. It may also be set up to give warning or alarm of impending trouble before the shut-off stage is reached. On multi-motor driven conveyor applications, one Tipp-Tronic may be used as a control on the total current of all the motors, or one unit may be used with each motor. For further details, please mention PEE No. 99 in your request.

Proof Press Lockup Bar

A lockup bar for proof presses and test presses has been announced by Vandercook & Sons, Inc. This form locking device, called the Vandercook Positive Lockup Bar, is self-squaring and is provided with a lever that first locks the bar between the bed bearers on the press. A further movement of the lever causes pressure to be exerted against the form. The bar is made from aluminum and is pro-



vided with a recess to allow for tie-up string. For further details, please mention PEE No. 62 in your request.

Pneumatic Noise Attenuator

The 4-44 Series Pneumatic noise attenuator has been developed by the Allied Witan Co. Noise protection and increased operating comfort are claimed benefits obtained with use of the 4-44 series Atomuffler. Developments such as an internal resonator, a diffuser having a large exhaust radiation, are claimed by the manufacturer. The Atomuffler when connected to the exhaust port of air operated equipment eliminates 99.9% of the objectionable exhaust noise of air operated equipment, states sponsor. The model is available in eight pipe sizes ranging from ⅛ in. to 2 in. N.P.T. The units are made with a male pipe thread for direct connection to the exhaust port of air-operated equipment. For further details, please mention PEE No. 68 in your request.

Kodak Gravure Copy Film

A gravure copy film which is said to have such highlight contrast that it reduces the need for highlight masking of black and white negatives has been introduced by Eastman Kodak Co. Designated as Kodak Gravure Copy Film, the product has been

(Continued on Page 84)

Graphic Arts Equipment and Supplies

Literature for the Asking

Keep Yourself Informed. The folders and bulletins listed below all pertain to modern equipment, supplies, processes and/or methods. These have been prepared especially for plant managers, superintendents and foremen. Please ask for the pieces selected by number and send your request to Literature Dept., *Printing Equipment Engineer,* 1276 West Third St., Cleveland 13, Ohio.

Composing Room

PHOTO-COMPOSITION

A 6 page, fully illustrated brochure descriptive of how the Filmotype Photocomposition Machine is used to produce hand lettering and display type has been made available by Filmotype Corporation. The brochure is designed to give a photographic step-by-step description of the machine's operation. Also shown are reproductions of a variety of examples of Filmotype as used for magazine and newspaper advertisements, direct mail literature, publications, catalogs and others. For a copy of the two color brochure, please mention PEE No. 110L in your request.

CRAW CLARENDON TYPE FACE

An attractively executed, four page bulletin has been published by American Type Founders descriptive of its new type face, Craw Clarendon. Freeman Craw, who designed the typeface, illustrates in the folder how he would use the face in a variety of examples. Craw Clarendon is presently available in 8 pt. to 72 pt. and is designed to meet the requirements of modern typography. For a copy of the two color bulletin, please mention PEE No. 111L in your request.

LINECASTING SLUG SAW

A 12 page bulletin, *Cutting Composition Costs,* has been released by Mohr Lino-Saw Co. in which is illustrated how composition costs and time can be reduced by the use of Mohr saws on linecasting machines. Slugs are sawed automatically as produced. Operational features are described and the machine illustrated in the bulletin in use on a Linotype and Intertype. For a copy of the two color bulletin, please mention PEE No. 112L in your request.

VISILITE MAGAZINES

A bulletin titled *Visilite Magazines for Intertype Linecasting Machines* has recently been published by Intertype Corporation. In the four page bulletin are illustrated Visilite magazines which include full-length, three-quarter split, half-split lengths and corresponding stubs in both the 90 and 72 channel types. This range covers all main magazine requirements for Intertype linecasting machines. For a copy please mention PEE No. 113L in your request.

BASKERVILLE TYPE SPECIMEN

A new Baskerville type specimen folder showing a wide range of sizes has just been issued by Mergenthaler Linotype Co. The folder displays the complete Baskerville transitional series, which includes 6, 7, 8, 9, 10, 11, 12, 14 and 16 point. An accompanying Baskerville bold face in roman and italic is also included. For a copy, please mention PEE No. 137L in your request.

PROTYPE SPECIMEN FOLDER

Multiple zig-zag folder (4⅝ in. by 10 in. when folded) shows 28 pages of type styles and fonts available for use in ProType photo-typesetting machine. Over 10,000 different fonts are available from 6 pt. to 90 pt. In the folder, in addition to the type specimen, the point size and fractional inch height of capital letters are given. Please mention PEE No. 114L in your request.

STAMPING-EMBOSSING TYPE

A bulletin consisting of 12 pages, 3⅞ in. by 9 in., has been prepared by Service Engraving Works, Inc. In the bulletin are shown specimens of type faces suitable for stamping and embossing work. Font prices and selections also given. For a copy, please mention PEE No. 115L in your request.

COST CUTTER SAWS

Saws for aligning quadded slugs, sawing large plates, squaring mounted halftones and undercutting and mortising are illustrated and described in a six page bulletin released by Fastener Corporation, C. B. Nelson Div. Two specially designed cabinets optional with either model are also described. One page of specifications is included in the bulletin along with extra equipment available such as blades, mitering attachment and saw guard. For a copy, please mention PEE No. 116L in your request.

Platemaking

ROYLE CABINET SAW

John Royle & Sons has issued a bulletin on its cabinet saw. This is an 8½ in. by 11 in., four page, two-color piece which includes photographs of the saw with the table down in operating position and raised to show the motor and drive arrangement. A table of specifications is also included. For a copy, please mention PEE No. 117L in your request.

CARING FOR STAINLESS STEEL EQUIPMENT

Chemco Photoproducts Co., Inc., has issued a one-page sheet of instructions on cleaning and caring for stainless steel equipment. The instructions are intended primarily for users of Chemco stainless steel equipment, but the advice is sound for anyone with similar stainless steel machines. For a copy, please mention PEE No. 118L in your request.

ROBERTSON CAMERA

A four page, four color brochure in which Robertson 24 in. and 31 in. Comet cameras are featured has been released by Robertson Photo-mechanix, Inc. The Comet is of Uni-Cell metal construction and track design combining one-piece steel tube with bi-rail track and floating rubber suspension. The basic camera and its componenta are illustrated and described in the brochure. One page is devoted to complete specifications of the camera. For a copy, please mention PEE No. 119L in your request.

Pressroom

MIEHLE OFFSET PRESSES

Miehle offset presses are the subject of an 8½ in. by 11 in., two-color, six page folder issued by the Miehle Printing Press and Mfg. Co. Described and pictured are Miehle 29 and 36 single color offsets, Miehle 41 and 49 two color offsets, and Miehle 61 and single and multicolor offsets. One page of the folder is devoted to various specifications of each of these models. For a copy, please mention PEE No. 120L in your request.

AUTOMATIC SHEET METAL FEEDING

The Dexter Folder Co. has made available Short reprinted technical articles telling how the Hotpoint Company and W. H. Hutchinson & Son, Inc., both of Chicago, use automatic sheet feeders in delivering tin plate and steel sheet to punching, forming, slitting and lithographing equipment. In the articles are described key components of the automatic feeding equipment and typical operations are followed from feeding through processing. For a copy, please mention PEE No. 121L in your request.

MILLER SAMPLE PORTFOLIO

Miller Printing Machinery Co. has issued a portfolio of various mailing pieces showing kinds and types of work which can be done on the 14½ in. by 20½ in. M.A.N. Poly-Automat Letterpress. Each piece is designed to show as well as tell of the features of the press. They demonstrate holding register, handling onion skin and cardboard stock, the smallest press sheet handled and die cutting. For a copy, please mention PEE No. 122L in your request.

FLUORESCENT INKS

A 4 in. by 8 in., four page bulletin is descriptive of Switzer Brothers, Inc.'s letterpress fluorescent inks. Two pages of ink circular spots show the qualities of these bright inks. The inks may be used for temporary window displays, sales bulletins, letterheads, short-term posters for special events and others. One page of the bulletin is devoted to a description of the advantages of the ink. For

(*Continued on Page* 88)

Literature Request Coupon

After you have selected the literature described in these pages which you would like to have sent to you, please jot down the identification numbers on this coupon and mail to

PRINTING EQUIPMENT *Engineer*
1276 West Third St., Cleveland 13, Ohio

Literature Number(s) _____

_____

Your Name and Title _____

Company Name _____

Street Address _____

City _____ Zone _____ State _____

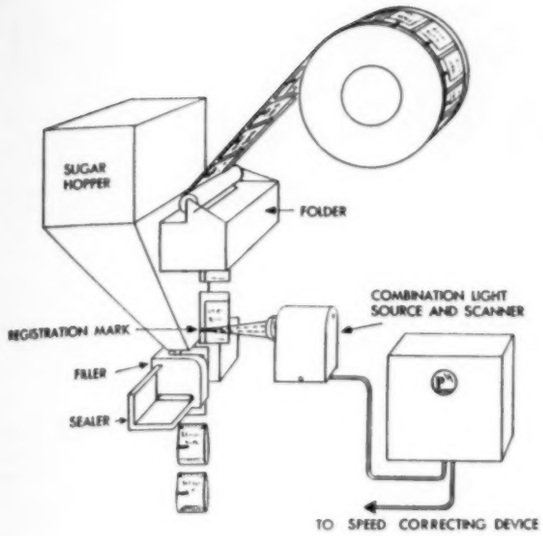


Fig. 9.—Preprinted paper web for fabricating envelopes with photoelectric control provided by Electronics Corporation of America.

Uses of Electronics In Graphic Arts Industry

By **FRANCIS A. WESTBROOK**

PART III.—

PACKAGING CONTROLS

Registration Control, Type 23LF3, made by Photoswitch Div. of Electronics Corporation of America, is used where it is necessary to maintain accurate register of paper, Cellophane and other packaging and labeling materials which are being made into bags or wrappers and must be cut to the proper length relative to trade marks and other printing. The latter is on rolled webbing so that it is necessary to perform the filling, cutting and sealing of the bags or wrappers in register with the printing. The reason why high speed, high sensitivity photoelectric control is necessary is that compensation must be made for changes in the web dimensions due to its drying during printing, stretching while being fed into the machine, draw roll slippage and variations in the relative speeds between the web travel and the cutter. While the errors are usually very small for each individual bag, wrapper or label, they are cumulative and quickly become noticeably off center if not corrected.

A good example of how the Photoswitch electronic control works is the application of offset printed paper labels supplied in roll form. Each label in the case under consideration is 4 in. wide by 6 in. long with a space ½ in. wide between each one. In the center of this space is a horizontal black registration mark ⅛ in. wide by ¼ in. long, thus making the distance between the marks 6½ in.

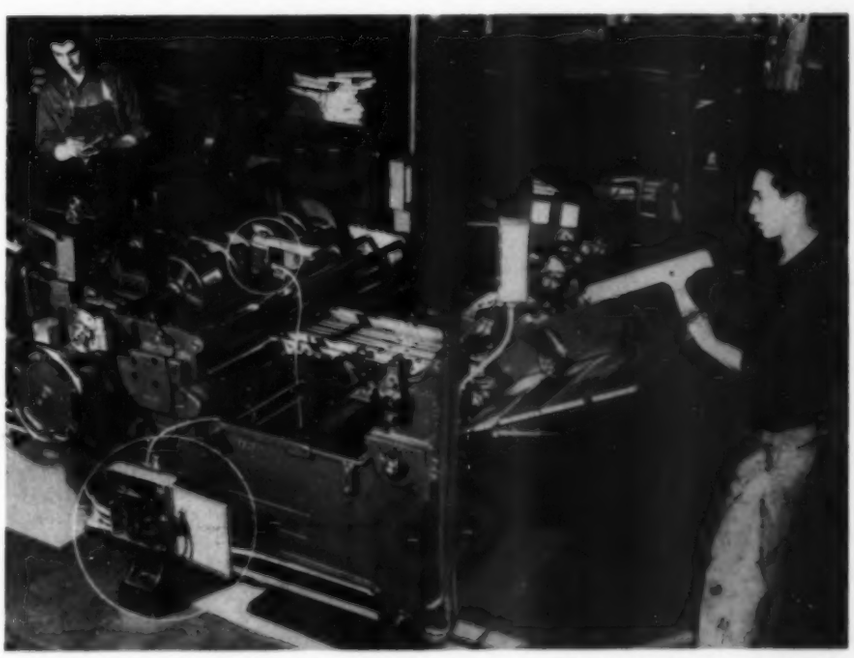


Fig. 10.—Envelope machine with Electronic Corporation of America's photoelectric control.

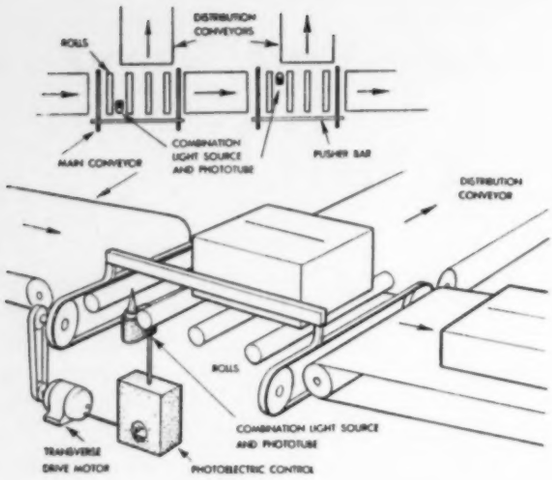


Fig. 11. — Photoelectric sorting of cartons on conveyor line with equipment made by Electronics Corporation of America.

They are to be cut through the center of the registration mark and the accumulated error must be compensated for.

The light beam from a scanner is focused on the dark registration marks on a light background. These cause an abrupt decrease of the reflected light from the beam which passes back to the phototube. If this reflected light beam disturbance is not synchronous with the cutting operation of the machine a correction in the paper feed is made through a solenoid-operated backstop clutch on the drive roller in conjunction with an overrunning clutch. When the solenoid is energized the paper is slightly advanced a preset amount and the increase of the paper feed corrects any error that has taken place.

When the registration control has been energized the reset terminal circuit has to be opened to de-energize the relay circuit. In order to prevent operation of the control due to light disturbances caused by the printed part of the label the reset terminals must stay open until that portion has passed the scanner. Therefore, the reset switch is designed to close when the knife starts its cut and to stay closed for 9/16 in. of paper travel, or until the start of printing.

Briefly, the registration control cycle is as follows:

Fig. 12.—Photovolt Corporation's Reflection Meter for control of color and tone in the pressroom. Manual adjustment of the fountain is then made in harmony with the reading on the instrument dial.

(1.) Reset contacts close when the knife begins its cut.

(2.) Passing of the registration mark before closing of the contacts does not energize the relay, but its passing after the contact has been made does energize the relay and causes operation of the correction solenoid.

(3.) The reset contacts open after 9/16 in. of web travel and release the drive solenoid.

Packaging Equipment

An actual application along these lines is shown in Fig. 9 for the packaging of individual portions of sugar in small paper envelopes, where the printed label on each envelope is carefully positioned. To keep down costs, it was decided not to prefabricate the envelopes and then print them, but, instead, to preprint them on a roll of webbing which the packaging machine makes into envelopes, fills and seals. These steps must, of course, be carried out in register with the printing on the web.

This is accomplished by using a standard high speed, high sensitivity photoelectric control to scan the webbing and locate the registration mark printed with the labels. The equipment operates through a linkage in the webbing roll drive so that if the registration mark is not viewed by the scanner when filling, cutting and sealing take place it is speeded up until the mark appears at that time. This design provides a completely automatic machine capable of producing from 7000 to 9000 packages per hour.

Envelope Making

Another interesting and practical example of photoelectric control has been made to envelope machines to keep glue off the rollers if the envelope feed skips. This is shown pictorially in Fig. 10. With this machine the envelope blanks are fed on a conveyor, passing between a guide roll and glue wheel which applies glue at set intervals. If there is a break in the feeding of envelope blanks the glue is deposited on the guide roll so that when a blank does come along glue is applied to both of its sides, resulting in binding between the rolls as the glue builds up and spoilage of envelopes.

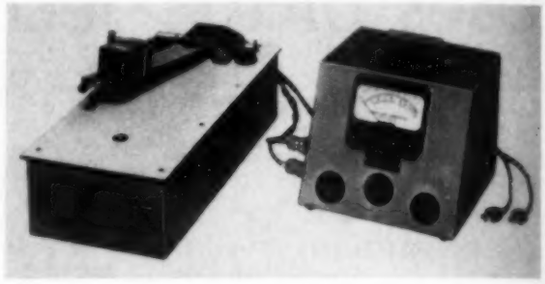


Fig. 13.—Photovolt Corporation's Transmission Densitometer for measuring density of negatives and positives in platemaking operations.

PHOTOELECTRIC COLOR AND TONE CONTROL

Photoelectric measuring instruments are used widely in the Graphic Arts industry for controls of various kinds, for taking readings and then making manual adjustments. Their field of application is different from automatic register control. For example, the Photoelectric Reflection Meter, made by the Photovolt Corporation, is an instrument with an indicating dial used to control color and tone. To do this, measurements may be made near the press to correct ink fountain setting if necessary, to control ink flow so as to obtain uniform tone across the sheet for a complete press run and for more than one press.

Color Control

It is also used to maintain standard colors of labels and car-

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Post-Advocate
Alhambra, California

"We've moved our deadlines up 30 minutes ...thanks to our new Comets"

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Herald-Sun Papers
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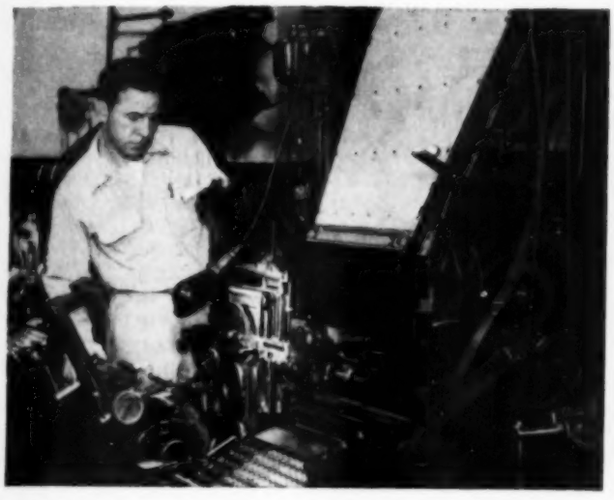

PRODUCTION MAN'S DREAM—"We don't baby our Comet," says *L. D. Hepler* of the Post-Advocate. "We've been running our tape-operated Comet at 12 lines a minute ever since it was installed. Even with the Comet's high-speed operation, we've found very little wear."

SPEED TO MEET DEADLINES—*D. J. Germino* of the Herald-Sun Papers checks a hot-off-the-press copy of his paper. The fast production pace set by a Comet makes deadlines easier to meet. Features like the steep 70° magazine angle, short matrix drop, and gearless assembler drive help keep Mr. Germino's production humming.

Take a tip from publishers, machinists, printers and operators—men who have seen and tested the Comet's performance. All acclaim the Comet as the fastest, most practical straight matter machine ever built. Its unmatched simplicity of design provides more accessibility and reduces maintenance time. In either manual or tape operation, it just can't be topped.

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LEADERSHIP THROUGH RESEARCH

Fig. 14.—Photovolt Corporation's pH Meter.

tons when they are printed in different plants and to measure color correctly under any light, so as to avoid variations during different shifts without depending on the human element of judgment. Use of this instrument also makes it possible to reproduce any color at any time.

Variations in colors may be due to the ink, the kind of paper, the flow of ink, differences between presses, heating of the presses, humidity and the presence of dirt or dust in the atmosphere. Careful standardization of ink and paper, press construction and air conditioning of course can greatly mitigate the severity of these variations but it is not practicable to control all of these factors by standardization. It is essential, therefore, to make direct measurements from time to time and adjustments as indicated to secure the desired uniformity of color and printing. Obviously, this is an entirely different proposition from maintaining accurate register but no less important.

This difficulty is taken care of by high speed photoelectric controls whereby each envelope blank breaks the beam from the scanner at the instant when a cam geared to the glue wheel shaft closes a synchronizing switch. If there is a break in the feed of blanks the control beam is not interrupted and the switch operates a solenoid to retract the guide roll from the glue wheel so that there is no smearing of the guide roll and envelopes. When the glue applicators have passed the guide roll the cam switch releases the solenoid and provides for normal operation when the next blank comes along.

It is worth noting that small size controls were used for this application on account of space limitations and the frequent necessity of changing their position for envelopes of many different sizes.

Conveyorized Operations

There are many possible applications of electronic controls in the Graphic Arts industry and it is not possible to cover more than a few here to give an idea of what is being done. However, the use of such controls in connection with conveyorized operations has several variations and it will be worth while to consider at least one of them, for example the photoelectric sorting of cartons.

Many instances exist where finished work of different kinds is packed in cartons of various sizes and sent to the warehouse on a conveyor where each kind must be sorted and sent to its proper area for storage. The size and shape of the cartons does not indicate what they contain, and in the plant in question it formerly took two men full time to read the markings on them and push them on to the right distributing conveyors.

Automatic sorting was made possible by the use of two photoelectric controls, one on each side of the conveyor, with one located at the first point of discharge in the warehouse and the other at the second point. When the packers fill a carton they stick a small strip of reflecting tape on the bottom of each to actuate the scanners. For one type of contents the tape is applied along one edge of the bottoms almost to the middle. For the second type of contents the tape is applied to the same edge but from the middle to the opposite side. There is no tape at all for the third type.

Cartons are placed on the conveyor so that the tape is at right angles to the direction of travel.

The arrangement is shown diagrammatically in Fig. 11. The scanners "look" at the bottoms of the cartons at the discharge points and when they "see" a reflecting tape the photoelectric control operates a mechanism to shift the carton from the main conveyor to the proper distribution conveyor. If the cartons have no reflecting tape they pass along to the third storage area. Having the tapes on the bottoms of the cartons provides for a correct focus of the light beam because they are at a fixed distance from the scanners regardless of their size and shape. If more than three storage areas are necessary the tapes can usually be placed on the carton bottoms so that more scanners may be used.

The Photoelectric Reflection Meter (Fig. 12) used for these measurements consists of a search unit which comprises a light source and a photocell. It is connected with the instrument proper which contains the indicating galvanometer and controls. The whole instrument is contained in a wooden box with a cover and carrying strap. To make measurements the search unit, at the end of a flexible cord, is moved around on the color area under test. The reflected light strikes the photo cell and generates a current which actuates the galvanometer and is indicated on the dial. The instrument can be operated by 110 volt a.c. or by a 6 volt storage battery. Use of the latter has the advantage of making it possible to take readings in locations where a pow-

(*Continued on Page* 86)

Books in the Bag — Greater Boston area telephone directories for 1956 were left on the doorstep in transparent film bags made of Bakelite polyethylene, if no one answered the delivery man's knock and there was no sheltered place he could leave the book (left). The reusable bag protects the book from the weather until the householder returns (right). Film made of Bakelite polyethylene was the choice for this job. New England Telephone and Telegraph Co. ran trials last summer in four New England cities before tackling the Greater Boston job. The trials confirmed that roughly one directory in 50 needed a bag because it had to be left in an unsheltered place. This is a small percentage, but a bothersome one. A damaged or soaked directory is useless and annoying to the customer. Replacement and redelivery, particularly in outlying areas, can be expensive for the company. The film bags are supplied by Pierson Associates, Boston. About 1,750,000 directories were delivered in the Greater Boston area during the end of 1955. About 50,000 bags were used, mostly in outlying areas.

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PATENTS

For The GRAPHIC ARTS

Covering patents issued January 3, 10, 17, 24 and 31.

All new patents for the Graphic Arts are reported exclusively for *Printing Equipment Engineer* by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred patents issued each week. *Printing Equipment Engineer* is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

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Platemaking:

PROCESS FOR PRODUCING IMAGES

Relief images made by this process can be used directly for letterpress printing, and they are useful for imbibition printing processes involving dye transfers. In preparation of direct positive offset printing plates, this procedure eliminates the step of making the intermediate negative. Patent 2,729,562 by Rene Robert Zemp, assigned to E. I. du Pont de Nemours and Co.

METHOD OF ETCHING METALS

Sharp impressions and etchings are obtained on ferrous metals and aluminum by applying a thin film of azokerite, then a thin film of gilsonite and applying a die to remove the desired shape of film, then applying a metallic salt capable of ionic exchange with the base metal. Patent 2,730,435 by Robert W. Michler.

PHOTOGRAPHIC METHOD OF MAKING INTAGLIO PRINTING ELEMENTS

The patent discloses a method of making screen records for use in the preparation of plates and cylinders for gravure printing and provides for making screen positives with dots of optimum shape and size for preparing cylinders to print on different materials. Patent 2,731,346 by Donald C. Gresham, assigned to McCorquodale-Gresham, Inc.

MATRIX DRYING APPARATUS AND MACHINE

Newspaper matrices or paper composition plates from which curved plates are cast for printing of newspapers are held between vertical wire frames or transparent panels so as to confine hottest portion of heated air to the region immediately around the matrix. The matrix may be held in accurately bent position during drying, and is thereby ready for immediate insertion in the casting machine. Patent 2,731,733 by Leslie J. Griner, assigned to Alico, Inc.

METHOD OF MAKING PRINTED IMAGES

This recording method uses a metallized print, and subsequent disintegration of the metal both directly and indirectly to form selectively, a visible image. The resulting metallic image may be produced on a rigid printing plate or other media for use in connection with standard printing media. Patent 2.732.286 by Georg Propstl, assigned to Robert Bosch G.m.b.H.

METHOD OF MAKING COPIES AND REPRODUCTIONS

Invention teaches the disintegration of an extremely thin metallic layer deposited upon a suitable base, such as light pervious base, having impressed thereon a latent image by a suitable activating substance, which selectively develops a visible image. This may be used as a matrix for varied printing operations. Patent 2.732.287 by Georg Propstl, assigned to Robert Bosch G.m.b.H.

PHOTOSENSITIZATION OF POLYMERS CONTAINING CINNAMOYL GROUPS

Light-sensitive photomechanical resist compositions of extremely enhanced light sensitivity can be used directly for planograph work, or applied to various supports, such as metal. The polyvinyl cinnamate acts as combined carrier and light sensitive material. Patent 2.732.301 by Earl M. Robertson and William West, assigned to Eastman Kodak Co.

PRINTING PLATES

Desensitized metal lithographic printing plates are so treated that all traces of unhardened albumen, etc., can be removed from plates and foils without dependence upon a separate chemical desensitizing procedure. Plates, when stored, do not corrode. Patent 2.732.796 by Charles H. Van Dusen, jr., assigned to Addressograph-Multigraph Corp.

•

Feeding, Folding, Delivery:

HORIZONTAL TURNS FOR CONVEYORS

The turn of the invention is for use between two conveyor sections of the standard type commonly used for transporting a stream of newspapers, and is easily adjustable for compensation to variations, such as thickness of stream or speed in stream of material being handled. Patent 2.729.324 by Frederic E. Howdle, assigned to Cutler-Hammer, Inc.

SHEET DELIVERY MECHANISM FOR PRINTING MACHINES

In a chain type sheet delivery mechanism, the chain delivery travels at a variable speed and at a slower speed than the peripheral speed of the impression cylinder during delivery. This is the only means required to retard the sheet travel and construction of the machine is thus simplified. Patent 2.730,363,

Less Lengthwise Shrinkage with Burgess Mats

Burgess mats shrink less lengthwise for a given width shrinkage. Why ask for trouble with advertising lineage. Help the advertising department—use Burgess Mats.

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Kennedy Road, Agincourt, Ontario

A Laboratory Product
BURGESS Chrome MATS

by Paul Dietrich and Emil Kolland, assigned to Maschinenfabrik Augsburg-Nurnberg, A. G.

ANGLE BAR ARRANGEMENT

For handling printed webs and discharging them into a former folder, this angle bar is readily adjustable while press is running and it may be used in pressrooms having limited ceiling height. Patent 2,733,061 by Curtis S. Crafts, assigned to The Goss Printing Press Co.

MEANS FOR LOCKING A COLLAR TO A ROD

In machines for separating sheets of paper or card from the top of a pile and feeding them to a printing machine, this mechanism provides for making adjustments so that the machine can handle sheets of different sizes. Patent 2,733,082 by Headley Townsend Backhouse.

DELIVERY FRAME IN SHEET PRINTING PRESS

The support for the chain delivery frame, when in operative position, is disposed in the same horizontal plane as the swingable frame, thus preventing its obstruction of the free space where sheets are discharged. Patent 2,732,205 by Paul Dietrich and Hans Bayer, assigned to Maschinenfabrik Augsburg-Nurnberg A. G.

ADJUSTABLE JOGGING MECHANISM IN SHEET PRINTING PRESSES

A simple and compact jogging device for delivery boards of sheet printing presses is adaptable to varied sizes of sheet, by means of a releasing means incorporated into the drive shaft. Patent 2,732,206 by Paul Dietrich, assigned to Maschinenfabrik Augsburg-Nurnberg A. G.

CHAIN DELIVERY UNIT FOR PRINTING PRESSES

For multilith offset presses, the paper gripper bars of the delivery device are cast in one integral solid piece and a one-piece notched out anvil is secured to the impression roller of the press. The tighteners for the sprocket chains operate by a push action rather than the conventional pull action. Patent 2,730,364 by Elmer R. Thomsen.

SHEET FEEDING MECHANISMS

A two sheet detector as used in a sheet feeding mechanism for printing machines uses two suction control valves and at least one relief valve to enable the degree of suction on paper to be varied according to paper grades, without appreciably affecting the timing. Patent 2,729,448 by Headley Townsend Backhouse.

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Printing Presses:

TWO-REVOLUTION PRINTING PRESS

The press is of the type in which a reciprocating type bed is driven by a toothed rack, a toothed segment, and a shaft from a toothed segment is positioned laterally of the type bed. Maximum stiffness and simplicity of construction have been combined in the press structure. Patent 2,729,163 by Paul Dietrich and Emil Kolland, assigned to Maschinenfabrik Augsburg-Nurnberg A. G.

APPARATUS AND METHOD FOR SETTING AND DRYING MOISTURE SETTABLE INK

The apparatus includes one chamber in which the ink on a moving web of paper is first set by moisture supplied to the chamber, and an independent drying chamber wherein the moving web is dried as a separate step after the ink is set. Patent 2,731,732 by James C. Harris, jr., Andrew A. Caridis and Burt C. Kendall, one-half each assigned to Crown Zellerbach Corp. and Heat and Control, Inc.

INKING MECHANISM FOR PRINTING MACHINES

Necessity for cleaning in making ink color change is eliminated in a printing machine by

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use of a series of self-contained ink-pump units, each equipped with ink pumps, an ink box from which the pumps draw their supply, and with ink discharge ducts. Patent 2,731,914 by Thomas Ewart Phythian and William Dudley Lawson, assigned to R. Hoe & Co., Inc.

TRANSFER PRINTING MECHANISM

The mechanism provides for securing and tensioning a flexible blanket around the periphery of a transfer cylinder for applying a printed or lithographed impression to a web of paper. Patent 2,729,164 by Laszlo M. Stempel, assigned to Laszlo M. Stempel and Albert Charles Nolte.

DEVICE FOR SIDE REGISTERING SHEETS IN PRINTING OR SIMILAR MACHINES

Sideways registry is effected by swivably mounting a guide plate about an axis of rotation parallel with the feeding sense of the sheet path. Patent 2,730,362 by Werner Koch, assigned to Faber & Schleicher Aktiengesellschaft.

INKING MECHANISM FOR PRINTING MACHINES

Ink is supplied to the ink drum of an ink motion through an ink rail fed through a number of conduits by a number of small pumps. This results in improved lubrication of the ink pumps without intermingling of the ink and lubricant. Patent 2,730,947 by William F. Davis, assigned to R. Hoe & Co., Inc.

AIR PRESSURE SYSTEM FOR THE SKELETON WHEELS OF AN OFFSET PRINTING PRESS

To prevent the skeleton wheels of offset printing presses from streaking or lining the printed side of a sheet, an air pressure system is used for supplying a continuous fluid flow to the rims of the wheels to maintain a clearance between the wheels and the printed sheets. Patent 2,730,950 by Leon J. Grassi.

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DEVICE FOR CLEANING CYLINDERS

For use with rotary printing machines, a cleaning roller is revolubly arranged in a container for cleaning liquid and is provided with a liquid absorbing sleeve adapted to be pressed into contact with the printing cylinder to be cleaned. Patent 2,731,916 by Werner Koch, assigned to Faber & Schleicher Aktiengesellschaft.

PRINTING CYLINDERS

For rotary printing presses, a novel tension lockup using springs to exert uniform force and plate securing devices independent of torsional deflection of shaft are provided. Special provision is made for color printing cylinders to allow for registering one plate without affecting position of another plate. Patent 2,732,798 by Corson Walter Chase, assigned to The Goss Printing Press Co.

GOVERNOR-DRUM DRIVE FOR PRINTING PRESSES

A simple, highly effective governor-drum drive which accurately compensates for differences in thickness of paper being fed into it on different jobs is applied to existing presses to greatly enhance their operating characteristics and efficiency. Patent 2,729,982 by Harold W. Huffman, assigned to The Hamilton Tool Co.

SQUEEGEES

For use with screen process printing machines, the device is adapted to spread ink placed on the screen evenly in advance of the squeegee blade and carry the surplus over the screen to initial point of contact of squeegee blade with screen for repeated use in printing. Patent 2,730,043 by Nathan Louft.

SLOTTED FRAME CONSTRUCTION FOR ROTARY PRINTING PRESS

Rotary printing press for printing web of paper is adapted for quickly and easily changing plate cylinders and adjusting them relative to their associated impression cylinders. It provides an easily adjustable inking mechanism, and may be used to print one or both sides of a web in a number of colors. Patent 2,730,044 by Dewey L. Harrison.

FORM CLAMP MECHANISM FOR PRESSES

This clamp mechanism for a press of the flat bed type insures against the damage and delay incident to a form flying off a press bed by means of a control which renders the bed-moving mechanism inoperative when the form clamps are not operative. Patent 2,730,045 by George M. Pfaller and August A. Saul.

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Binding, Cutting, Perforating:

MANIFOLD FORM FEEDING AND HOLD-DOWN MECHANISM

The mechanism is for collating work and is of the type in which record sheets in a continuous web form are directed to the machine and interleaved with a corresponding web of carbon paper. Patent 2,730,358 by John M. Riordan, assigned to Bonnar-Vawter, Inc.

DEVICE FOR STACKING MAGAZINES PRIOR TO TRIMMING

This stacker is designed for use between a stitcher mechanism and a trimmer and it may be operated either "one-up" or "two-up" to deliver magazines singly or in stacks as required by the trimmer. Patent 2,731,086 by Robert D. Easton, assigned to Pacific Press, Inc.

SHEET STACK FEEDING MECHANISM

For incorporation in a collating machine, the feeder automatically elevates a stack of sheets to maintain the top of the stack at a constant level and to provide a supply of sheets for a sheet removal mechanism. Patent 2,-

PATENT SEARCHES

For Patent Research in the U.S. Patent Office, or a prompt estimate on any type of search, write INVENTION, INC. Munsey Bldg. Washington, D.C.

732,204 by Lewis C. Pearce, assigned to Pearce Development Co.

APPARATUS FOR BINDING PILES OF SHEETS

Paper sheets are bound by winding a wire spiral in a pile of sheets perforated parallel to its back. The apparatus used is provided with fully visible guides for the wire spiral and the pile of sheets. Patent 2,730,142 by Willi Berberich.

•

Miscellaneous:

METHODS FOR INSOLUBILIZING COATING COMPOSITIONS

Greater printing press speeds, without sacrifice of clear, clean print on inexpensive paper is effected by this method, in which a pigmented ink composition containing castor oil is used. The composition is insolubilized on the paper surface by the use of an organic ester of an aliphatic monohydric alcohol. Patent 2,732,799 by John Harris Haslam, assigned to E. I. du Pont de Nemours and Co.

PRINTING INK VARNISH

The inks are quick drying and suitable for high speed printing of coated magazine stock. The inks are made up of a salt of a water-insoluble resin dissolved in an aqueous solution of urea with suitable pigments. Patent 2,733,155 by Ira Williams and Andries Voet, assigned to J. M. Huber Corp.

Carnegie Seminar On Printing Management

Program plans for the Printing Management Seminar, sponsored by alumni of the Carnegie Tech Printing Management School have been announced by William McNeill, chairman, Program Committee. Some 200 printing alumni in executive capacities will attend the event to be held April 27 and 28. This year the rapid growth and diversification of the packaging industry is to provide the dominant theme: *Printing for Packaging.*

The Thursday preceding the Seminar is to be devoted to a *Conference for Industry Sponsors,* a full day program directed to leaders in the printing industry under the auspices of the School of Printing Management. On Friday, speakers will be as follows: *Packaging, the Fastest Growing Segment of the Graphic Arts Industry* by Frederick S. Leinbach, vice president, Riegel Paper Corp.; *An Industrial Designer Looks at Packaging* by Egmont Arens, industrial designer; *Plastic Packaging Materials—Source, Use, Printability* by W. B. Tibbets, Bakelite Company and John Roser, Graphic Arts Division manager, Milprint, Incorporated. For the Workshop Panel Discussions the moderators will be as follows: *Finance,* W. G. Forster, president, Herbick and Held Printing Co.; *Problems of the Medium Size Plant,* A. L. Cantini, general manager, Holsing Lithograph Co.; *Sales,* C. E. Schatvet, president, Guide - Kalkhoff - Burr, Inc., *Labor Relations,* L. C. Shomo, vice president, National Publishing Co., and *Typography and Design.* T. G. Bixler, vice president, Edwin H. Stuart, Inc. An evening program on Friday will be *Research and Development in the Graphic Arts* in charge of John H. Davis, jr., vice president, Judd and Detweiler, Inc. and president, Research and Engineering Council.

The Saturday program will include breakfast with Miller Printing Machinery Co. as host. Dean Glen U. Cleeton, Carnegie Institute of Technology, will present student projects and awards. Afternoon talks will be: *Business Forms—The Tools of Management* by Wallace B. Sadauskas, purchasing agent, Union Carbide and Carbon Corp.; *Large-Edition Letterpress Magazine Production* by Joseph C. Bronson, assistant superintendent, Curtis Publishing Co., and *Sales Vitality and Initiative* by Ellsworth Geist, sales promotion manager, S. D. Warren Co. At a banquet at Morewood Gardens, J. R. Jackman, president, Rumford Press, and president, Printing Industry of America, will talk on *Benjamin Franklin and the Modern Printer.*

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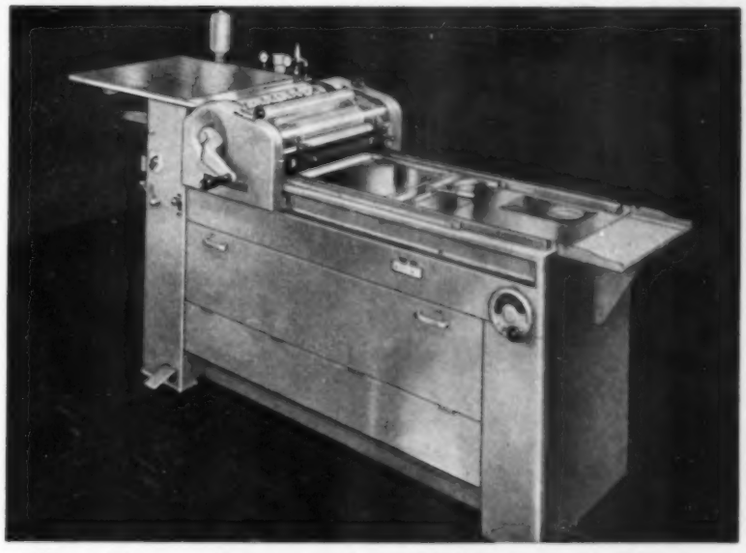

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ADJUSTABLE BED—*with which exactly the right impression can be obtained of plates or forms on the bed or on galleys.*

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Conference Dates

(With Organization Name and Principal Officer)

American Photoengravers Assoc. — 1956 Conv., Hotel Statler, Detroit, Mich., Oct. 8-10. Exec. Secy. Frank J. Schreiber, 166 W. Van Buren St., Rm. 430-A, Chicago 4, Ill.

ANPA Mechanical Conf.—1956 Conf., Statler-Hilton Hotel, Dallas, Tex., June 4-6. Mgr., ANPA Mechanical Dept., Richard E. Lewis, 370 Lexington Ave., New York 17, N. Y.

Book Manufacturers' Institute—1956 Meeting, The Plaza, New York, N. Y., April 5. Secy. Miss A. G. Watson, 25 W. 43rd St., New York 36, N. Y.

Fifth District Craftsmen's Conf. — 1956 Conf., Hotel Cleveland, Cleveland, O., June 1-2. Secy.-Treas. Dave Walker, Adm. Asst., Graphic Arts Assoc. of Michigan, 320 W. Lafayette St., Detroit 26.

Graphic Arts Trade Assoc. Executives —1956 Conv., Edgewater Beach Hotel, Chicago, May 7-8. Secy.-Treas. Floyd Maxwell, LNA, 420 Lexington Ave., New York 17, N. Y.

Gravure Technical Assoc.—1957 Conf., Drake Hotel, Chicago, Feb. 6-8. Secy. Len S. Pinover, Room 4800, 30 Rockefeller Plaza, New York 20, N. Y.

Great Lakes Newspaper Mechanical Conf.—1957 Conf., Statler Hotel, Cleveland, O., Jan. 13-15. Secy.-Treas. Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press.*

Illinois Newspaper Mechanical Conf. —1956 Conf., Wolford Hotel, Danville, Ill. Sept. 29-30. Secy.-Treas. Arthur Kramer, Joliet (Ill.) *Herald-News.*

Intl. Assoc. Electrotypers & Stereotypers—1956 Conf., Hotel New Yorker, New York, N. Y., April 25-26. Exec. Secy. A. P. Schloegel, 701 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen—1956 Conv., Biltmore Hotel, Los Angeles, Aug. 12-15. Exec. Secy. Pearl E. Oldt, 411 Oak St., Cincinnati 19, O.

Intl. Graphic Arts Education Assoc. —1956 Conf., Santa Barbara College, Univ. of California, Santa Barbara, Calif., Aug. 5-10. Exec. Secy. Samuel M. Burt, 719 Fifteenth St. N. W., Washington 5, D. C.

Intl. Printers Supply Salesmen's Guild—1956 Conv., Biltmore Hotel, Los Angeles, , Aug. 12-15. Secy. Louis A. Croplis, American Type Founders, 555 Broadway, New York 12, N. Y.

Intl. Typographic Composition Assoc.—1956 Conf., Royal York Hotel, Toronto (Ont.) Can., Oct. 10-13. Exec. Secy. Frank M. Sherman, 1015 Chestnut St., Philadelphia 7.

Iowa Daily Newspaper Mechanical Conf.—1956 Meeting, Hotel Fort Des Moines, Des Moines, Ia., April 14-16. Secy.-Treas. Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald.*

Kansas-Missouri Newspaper Mechanical Conf.—1956 Conf., Town House Hotel, Kansas City, Kans., Sept. 8 and 9. Kansas. Secy.-Treas. Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kans. Missouri Secy.-Treas. William A. Bray, Missouri Press Assoc., 220 Walter Williams Hall, Columbia, Mo.

Lithographers National Assoc., Inc.— 1956 Conv., Drake Hotel, Chicago, Ill., May 10-12. Exec. Dir. W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Mid-Atlantic Newspaper Mechanical Conf.—Conf. Dir. Theodore A. Serrill, PNPA General Mgr., 300-312 Telegraph Bldg., Harrisburg, Pa.

National Assoc. of Litho Clubs—1956 Conv., Lord Baltimore Hotel, Baltimore, Md., April 20-21. Exec. Secy. Elton N. Baker, 833 N. Orleans St., Chicago 10, Ill.

National Assoc. of Photo-Lithographers—1956 Conv., Hotel Commodore, New York, N. Y., Sept. 19-24. Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

National Printing Equipment Assoc., Inc.—1956 Meeting, Statler Hotel, Los Angeles, Calif., Oct. 20-Nov. 1. Secy. James E. Bennet, 140 Nassau St., New York 38, N. Y.

National Safety Council Printing and Publishing Section—Staff Rep. James

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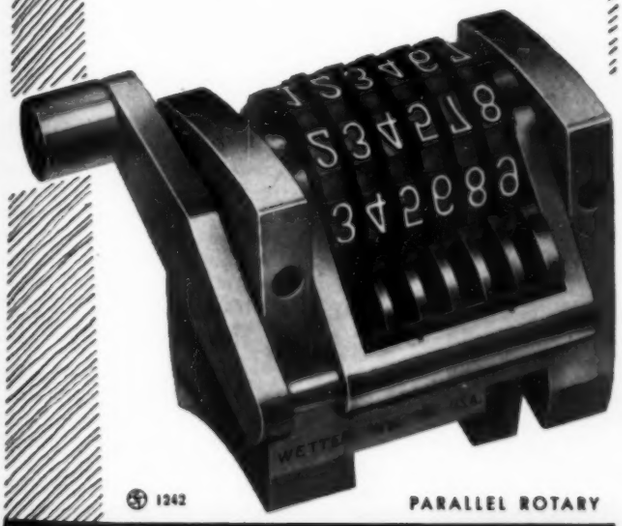
Wetter also manufactures other models for flat bed or cylinder presses to meet all numbering requirements of the printing trade. Write today for descriptive folder.



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Reduce Labor Costs—Just wheel Nolan Meltevator scrap trucks into position on the Meltevator, push a button and scrap is automatically dumped into the Remelter furnace. A bottom pouring valve eliminates hand ladling.

Increase Repigging Volume—Modern thermostat control cuts repigging time up to one half. Automatic loading and fast remelting provide a constant flow of metal with a minimum raw stock.

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Special installations are available to meet individual remelting problems. Write today for complete information on Nolan Remelters and Meltevators, or ask our representative to make a personal call. No cost or obligation.

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D. Saul, National Safety Council, 425 N. Michigan Ave., Chicago 11.

National Paper Trade Assoc.—1956 Conv., Waldorf Astoria Hotel, New York, N. Y., Apr. 9-11. Secy. J. H. Londergan, 220 E. 42nd St., New York, N. Y.

New England Newspaper Mechanical Conf.—1956 Conf., Statler Hotel, Boston, Mass., Oct. 20-21. Secy.-Treas. Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day*.

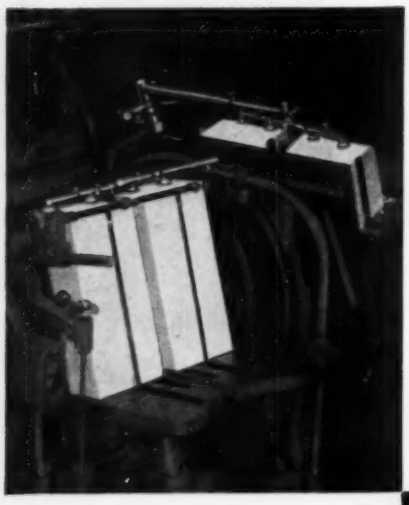
New York State Capital District Mechanical Conf.—Dir. Floyd Laurenty, Schenectady (N. Y.) *Union-Star*.

Northwest Mechanical Conf.—Secy.-Treas. Ralph N. Carson, Linecasting Instructor, Dunwoody Industrial Institute, 818 Wayzata Blvd., Minneapolis, Minn.

Pacific Newspaper Mechanical Conf.—1956 Conf., Biltmore Hotel, Los Angeles, Calif., Sept. 14-16. Secy. Fred Moyer, Sr., 6630 Mayflower Ave., Bell, Calif.

Packaging Institute Assoc.—1956 Conv., Statler Hotel, Cleveland, O., Sept. 10-12. Exec. Dir. Chas. A. Feld, 342 Madison Ave., New York 17, N. Y.

Printing Industry of America—1956 Conf., Statler Hotel, Los Angeles, Calif., Oct. 30-Nov. 2. Gen. Mgr. James R. Brackett, 719 Fifteenth St., N.W., Washington 5, D. C.



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Because *both* sheets in printing small forms on the C & P NEW CRAFTSMAN are always held by the feeding arm until positioned on the platen, *both* sheets can be printed to an accurate hair-line register. This doubles production so that from 8,000 to 9,000 impressions per hour on small forms are entirely feasible.

High quality, fast production on small forms is but one of the scores of features that make for profitable printing with the NEW CRAFTSMAN. Other outstanding advantages include.

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Research and Engineering Council of the Graphic Arts Industry, Inc.—1956 Meeting, Edgewater Beach Hotel, Chicago, Ill., May 9-11. Managing Dir. Robert E. Rossell, 719 Fifteenth St., N.W., Washington 5, D. C.

Screen Process Printing Assoc., Intl.—1956 Conv., Sherman Hotel, Chicago, Oct. 19-21. Exec. Secy. Robert H. Blundred, 549 W. Randolph St., Chicago 6.

SNPA (Eastern Div.) Mechanical Conf.—1956 Conf., The Dinkler Plaza, Atlanta, Ga., Aug. 19-21. Secy. John A. Hogg, Southern Newspaper Publishers Assoc., P.O. Box 1569, Chattanooga 1, Tenn.

SNPA (Western Div.) Mechanical Conf.—1956 Conf., Statler-Hilton Hotel, Dallas, Tex., June 4-6. Secy. Walter Johnson, jr., P.O. Box 1569, Chattanooga 1, Tenn.

Southern Graphic Arts Assoc.—1956 Conv., Eola Hotel, Natchez, Miss., Apr. 12-14. Secy. Charles E. Kennedy, 1514 South St., Nashville 2, Tenn.

Technical Assoc. of the Graphic Arts—1956 Conf., Edgewater Beach Hotel, Chicago. May 7-9. Secy.-Treas. Phillip E. Tobias, 140 N. 6th St., Philadelphia 6, Pa.

Porter Urges Organization For Well Trained Manpower

Harry A. Porter, senior vice president, Harris-Seybold Co., has started a tour of major printing centers in the United states to inform the Graphic Arts industry of the program of the Education Council of the Graphic Arts Industry and to urge printers to *Invest in Youth*. Porter opened his campaign recently at a combined dinner meeting of the Graphic Arts Assoc. of Connecticut, Hartford, and the Printing Industry of Connecticut, and since then has already addressed groups in Boston, Washington, D.C., Philadelphia, Wichita, Kan., Omaha, Neb. and Des Moines, Ia.

Porter has undertaken the task of urging the printing industry to organize itself to assure a continuing supply of qualified well-trained manpower, and is pointing out how the Graphic Arts industry can solve its manpower and training problems.

Accompanying Porter on his travels is Samuel M. Burt, managing director of the Education Council of the Graphic Arts Industry.

Porter's itinerary brought him into Atlanta, Ga., Nashville, Tenn., Louisville, Ky., and Dayton, O. in March and will bring him into at least another 10 cities before next Fall to speak at luncheon and dinner meetings of printers, printing teachers, and vocational educators.

Please take a look at your address on the wrapper in which *Printing Equipment Engineer* is sent. If it isn't correct, tell us about it.

NEWS ITEMS

Printing Management School—Establishment of a professional curriculum in printing management at Southern Illinois University, Carbondale, Ill., was announced recently by Dr. Howard R. Long, chairman of the university's Department of Journalism. Two majors in printing are now offered; a major in printing management, and a sequence in printing and education to train Graphic Arts teachers. Subjects included are typography, presswork, photolithography, paper book design, printing management and production. Printing sequences are under the direction of Asst. Professor Francis D. Modlin.

EDGAR

Printing Week Chairman — Robert M. Edgar, president of the Neyhart Printing Co., 244 Blvd. of Allies, Pittsburgh, Pa., has been appointed to succeed Floyd C. Larson, director of the U.S. Navy Printing Office, as Intl. Printing Week Chairman for the next two years. Edgar was appointed by Pres. A. R. Tommasini of the Intl. Assoc. of Printing House Craftsmen. Edgar is a past president of the Fifth District Craftsmen's Society and the Pittsburgh Club of Printing House Craftsmen and is a member of the Printing Industry of Pittsburgh.

Howard Schwarz is Deceased—Former president-treasurer of The Art Electrotype Co., Cleveland, O., Howard G. Schwarz died March 1 in Cleveland Clinic Hospital. He is survived by his wife, Alice, and brother, Ralph H. Schwarz.

Morrill Appointment—The Geo. H. Morrill Co., division of Sun Chemical Corp., announced the appointment of G. King Detzler as administrative assistant for its Chicago office. Detzler joined the Morrill Co. in 1951 as a news ink sales representative for several Midwest states. He will be succeeded as sales representative by Luther C. Paxton, former owner and general manager of the Shelbyville (Ill.) *News*.

Adco Press Founder Dies—Walter C. Joseph, founder and president of the Adco Press, Inc. died recently. His construction of the first small model offset press on which to print directories with plates prepared by the use of typewriter ribbon inked with lithographic ink was the birth of the Multilith machine. Walter was the father of Kenneth who has just finished two terms as treasurer of Houston Litho Club and is newly elected as vice president, and Jarold who is serving as head of the program committee of Graphic Arts Association and is also a Litho Club member.

World Color Executives—The Board of Directors of World Color Printing Co., St. Louis, Mo., has elected Robert S. Grable, chairman of the board, and Robert Messing, jr., president. Until his recent death, Roswell Messing, sr., was chairman of the board, Grable was president and Roswell Messing, jr., executive vice pres.

Oxy-Dry New Quarters—On February 1 the Oxy-Dry Sprayer Corp. moved to new and larger quarters at 1134 W. Montrose Ave., Chicago 13, Ill. The move will provide Oxy-Dry with larger manufacturing space for engineering and production. Sales offices are also included.

Joseph L. Auer, president of R. Hoe & Co., Inc. is traveling along the West Coast where he will make a study of business conditions. He will make an inspection trip of the new Hoe saw plant at Portland, Ore. Later he will visit San Francisco and Los Angeles. Hoe had sales of approx. $18 million in 1955 and currently has a backlog of unfilled orders of approx. $15 million.

Joins Sales Organization—The Chemco Photoproducts Co., Inc. recently announced that Edmund O. Fountaine has joined the sales organiza-

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Your Printing
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ARROWHEAD R.O.P. COLORS
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tion of the New York branch. For the past two years Fountaine was associated with Sun Chemical Corp. Prior to that he was with Harris-Seybold Co.

BARNETT

John M. Barnett has been elected vice president in charge of manufacturing for Robertson Photomechanix, Inc. it was announced by Leonard S. Florsheim Jr., president of the company.

Carl Hautz Retires—After a 57 yr. career, Carl Hautz will retire April 1st, it was announced recently. Hautz was foreman of the Sandusky (O.) *Register-Star-News* with which he has been associated for the past 30 yrs. Hautz started in the newspaper business in 1899 on the Mansfield (O.) *Shield and Banner.*

Miehle Stock Offered to Public—In February it was announced that stock of the Miehle Printing Press and Mfg. Co. would be made available to the general public. In connection with the stock offering it was announced that the Miehle Printing Press and Mfg. Co. would purchase the 50% of the outstanding stock of Dexter Folder Co. not now owned for approx. $2.9 million. Miehle has owned 50% of the Dexter stock for many years. It is not planned to merge Dexter into Miehle and that company will continue to operate under the present Dexter management. The Miehle-Dexter combination will be one of the largest manufacturers of Graphic Arts equipment in the world, consisting of letterpress and offset sheet fed presses, bindery equipment and special machinery. Management of the Miehle Printing Press and Mfg. Co. continues under J. E. Eddy as president with Phelps Kelley as executive vice president. George A. Heintzemann continues as president of Dexter Folder Co.

LIPSON

Heidelberg Eastern V. P. — Heidelberg Eastern, Inc. recently announced the appointment of Ira J. Lipson as vice president and general manager. Lipson will fill the vacancy caused by the resignation of Charles T. Pope. Until recently, Lipson was vice president and regional manager of the midwest branch of E. P. Lawson Co.

Brochure Wins Award—For its 65th Anniversary brochure, *Papermakers,* the New York & Pennsylvania Co. has received the New York Employing Printers Certificate of Special Merit. *Papermakers,* a 24 page booklet, tells the story of New York and Penn. It was designed and printed by William Rudge's Sons, New York, N. Y. The award was one of several made durnig the New York Employing Assoc.'s 14th Annual Exhibition of Printing. Candidates for special awards were selected from the exhibits of close to 150 printing firms in the New York metropolitan area.

McKEON

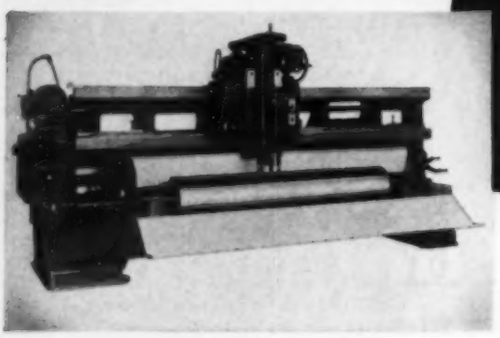
Sun Supply Sales Rep. — Sun Supply Co., Div. of Sun Chemical Corp., has appointed Frank McKeon as a sales representative in the metropolitan New York and Connecticut area.

Appointment of Henry M. Chestnut as superintendent of manufacturing, The Curtis Publishing Co. was announced by John M. Downs, senior vice president and director of manufacturing for the company. Samuel W. Waters succeeds Chestnut as chief engineer and manager of the Engineering Div. and Daniel Hendry succeeds Waters as assistant chief engineer and assistant manager of the Engineering Div.

Alan Wood Steel's New Factory—The Board of Directors of Alan Wood Steel Co. has authorized construction of a new factory for its Penco Metal Products Div. at Oaks, Pa. The Penco

For GRAVURE at its *Finest*

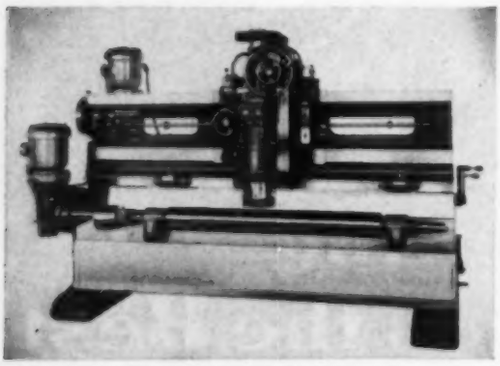
FINISH YOUR CYLINDERS
MIRROR SMOOTH
THIS MODERN WAY



Model "HL" Grinding and Polishing Machine. Taking cylinders up to 70" circ. x 89" face.

THE *Ultimate*
IN PRECISION
GRINDING - POLISHING

These machines are precision built in two standard sizes. Grinding and polishing is done with special "Intaglio" stones using water as a coolant, thus eliminating all dust. The resulting finish is finer than obtainable with paper and is completed in half the time. The grinding and polishing stones are mounted on a chuck plate which is attached to a spindle having a combination concentric and eccentric motion. The eccentric motion actually shears off the grain or roughness, leaving a smoother surface than is obtainable otherwise. The concentric motion combined with a special adjustable "floating" action is used for finishing the cylinder to a smooth, highly polished surface.



Model "HS" Grinding and Polishing Machine. Taking cylinders up to 38" circ. x 52" face.

Each machine is completely wired and run on a semi-production basis before it is shipped to the customer. Extensive periodic inspections are carried on during this interval to assure years of trouble-free operation.

Additional details on "Intaglio" stones furnished on request.

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Metal Products Div., acquired by Alan Wood Steel last summer, manufactures steel lockers, cabinets and shelving. The new one story building which will have 154,000 sq. ft. of floor space, is being built by Bowers Corporation at a cost of approx. $2 million.

FISCHER

Champlain Names Fischer—The appointment of Paul E. Fischer as director of sales engineering was announced by Champlain Company, Inc. Prior to joining Champlain Fischer was vice president and chief engineer of E. G. Staude Mfg. Co. and before that was with General Mills Corp. Fischer has obtained 24 patents in connection with packaging and paper conversion machinery and has 12 patents pending for the same type of equipment.

New Printing Equipment Company—A new company has been incorporated for the sale of printing equipment of American manufacture throughout the world. The new company, Ampress, Incorporated, will have headquarters in the Bronx, N. Y. It will market newspaper, magazine, metal decorating, web-fed offset and rotogravure presses and stereotype equipment.

Fastener Buys Nelson — The C. B. Nelson Co., manufacturers of saws for the Graphic Arts industry, is now owned by Fastener Corporation and has moved to its new building at 3700 River Rd., Franklin Park, Ill. The company is a division of Fastener Corporation. Announcement was made that there is no change in personnel or management with C. B. Nelson still in charge.

COULTRAP

Miehle Advances Coultrap — J. E. Eddy, president and chairman of the board, Miehle Printing Press and Mfg. Co., recently announced the election of J. W. Coultrap as vice president. Coultrap joined Miehle in 1941 as head of the legal department, became secretary of the company and was elected to the board of directors. He is also assistant treasurer of the firm and will continue to serve in his present capacity as secretary and general counsel. Coultrap is serving as treasurer of the Education Council of the Graphic Arts, Inc., and the National Printing Equipment Assoc., Inc.

Two Linotype Executives—Joseph A. Keller has been appointed vice president for operations of Mergenthaler Linotype Co., announced Martin M. Reed, president. He succeeds Col. G. B. Welch, who retired February 29. Keller was vice president and general manager of the F. L. Jacobs Co., Detroit. In his new post he will be in charge of all factory operations, engineering, research and development at the Linotype plant, 29 Ryerson St., Brooklyn. Linotype also announced election of Malcolm E. McAlpin to the Board of Directors, succeeding Col. G. B. Welch. McAlpin is a member of the New York Stock Exchange and a partner in Talcott, Potter and Co.

Charles E. Wortman, for the past years on the sales staff of Miehle Printing Press & Mfg. Co. in the Southern California area, recently joined the Heidelberg organization in Los Angeles. Wortman will take over the cylinder and platen sales divisions for Heidelberg's Southern California dealership and, at a later date, will take on the duties of general sales manager for the Western distributor, Heidelberg Western Sales.

Foreign Exhibit Planned—The fifth international show of Techniques Papetieres & Graphiques is to be held in Paris, June 22 through June 30, 1956. It is expected to be the best representation of Graphic Arts equipment produced in 13 countries that has been gathered in Paris. More than 400 manufacturers' products will be displayed, among them approx. 100 West German representatives, and others from East Germany, Britain, Italy, Switzerland, and the United States. Additional information can be obtained by writing 5th Salon TPG, 40 Rue du Colisee, Paris 8, France.

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Equipment & Supplies

(Continued from Page 67)

designed for photogravure printing and all other operations involving copying of photographic prints for subsequent photographic reproduction. Tests have shown that the film lengthens the scale of reproduction because of its ability in the first step to help separate tones at the highlight end of the scale and thus improves tone reproduction in the highlights. Contrast can be controlled only through exposure. Although the film should be developed as recommended, it is said that time of development has little effect on contrast. The orthochromatic emulsion is designed to work with Kodak Developer D-11. Kodak Gravure Copy Film is now available in packages of 25 sheets. Film sizes are 5 in. by 7 in., 8 in. by 10 in., 11 in. by 14 in., 12 in. by 15 in., 14 in. by 17 in., 16 in. by 20 in., and 20 in. by 24 in. For further details, please mention PEE No. 104 in your request.

Further Reports on Metl-Repl

Metl-Repl Spray, for elimination of metal build-up on slug casting machines, is reported by Central Typesetting Supply Co. to also eliminate metal buildup on the Monotype caster as well as on the Ludlow machine. The superintendent of a publishing plant in the East tested the spray for over two months. In this plant seven Monotype casters are operated around the clock in three 8 hr. shifts every day. Standard procedure has been to remove the matrix case, clean it in solvent, and blow dry. This resulted in the loss of 5 to 10 min. per hour for each caster. With Metl-Repl Spray the matrix case and the top of the mold can be sprayed in a few seconds. Another plant reported that it takes a few seconds to apply Metl-Repl Spray on Ludlow molds, mouthpiece, wipers and sticks. For further information mention PEE No. 100 in your request.

Nuclear Water Conditioner

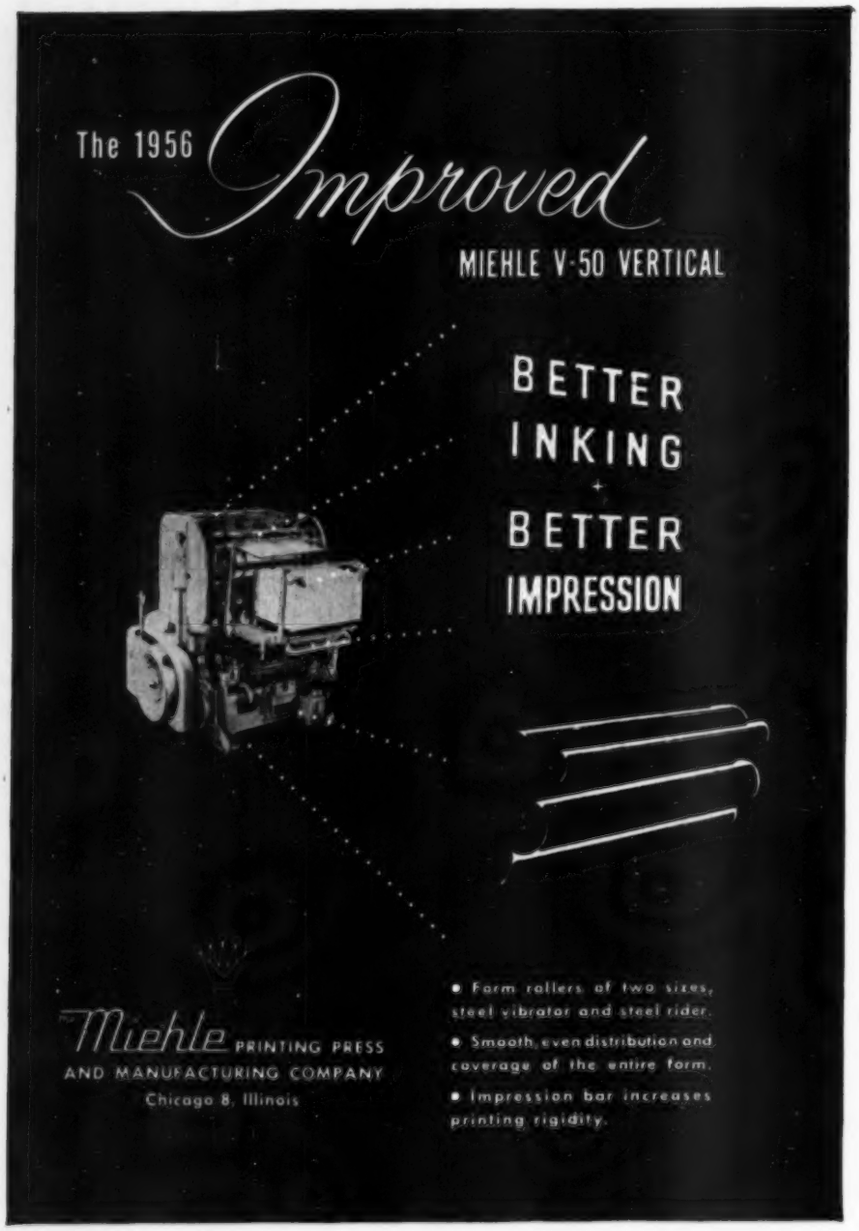
The Packard Manufacturing Co. recently announced a water conditioner that is said to eliminate and prevent scale and corrosion formations in water systems without the use of

chemicals. For use on boilers, air conditioning and other industrial applications where water problems exist, the Packard Water Conditioner prevents scale and corrosion by imparting added energy to the atoms of the water solution. There are no moving parts or chemicals. The Packard Water Conditioner is in sizes handling from 6.5 gal. to 1760 gal. per min. for connection with corresponding standard iron pipe sizes ranging from ¾ in. to 12 in. Larger sizes are available. For further details, please mention PEE No. 72 in your request.

Paste Dispenser— An automatic press makeready paste dispenser, called Bing-O-Matic, is announced by Sam'l Bingham's Son Mfg. Co. The white plastic dispenser mounts on a wall. Inside the dispenser is a replaceable tube of Bing-Make-Ready paste with self-sealing nozzle. The paste is a new formula. According to the company, it will not crystallize and will remain usable without waste for a year. For further details, please mention PEE No. 80 in your request.

Colored Stitching Wire

Colorstitch wire finished in 10 shades including black and white, has been announced by Acme Steel Co. The wire can be used with Acme Steel's Arcuate Stitching Method or as regular flat stitching wire, on all standard stitching machines. It is coated with a vinyl paint finish bonded to the galvanized surface of the wire and is said to be resistant to chipping and peeling. It is designed for use by fibre box manufacturers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MIEHLE V-50 VERTICAL
BETTER INKING + BETTER IMPRESSION
• Form rollers of two sizes, steel vibrator and steel rider.
• Smooth, even distribution and coverage of the entire form.
• Impression bar increases printing rigidity.
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Chicago 8, Illinois

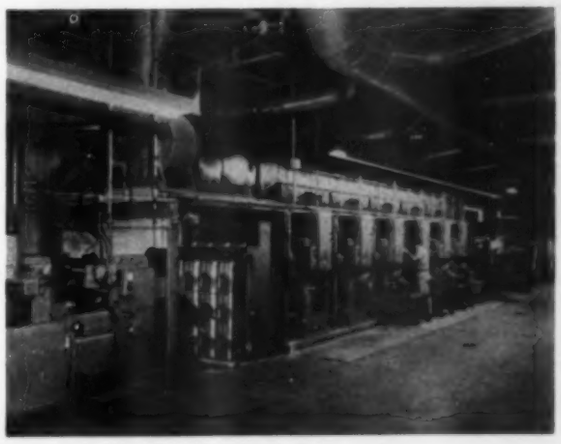
in stitching manufacturers' joints, among users in closing tops of fibre boxes, in assembly of telescope type boxes and for point of sale displays. The wire will be available in 10 lb. coils 0.103 in. wide by 0.020 in. thick. Other standard wire and coil sizes will be made in approx. multiples of 1500 lbs. on special order. Colorstitch is available in 10 colors—light and dark red, blue, green, brown, yellow and in black and white. For further details, please mention PEE No. 101 in your request.

Ream-Rite E.M.T. Reamer

A tool has been developed by Holub Industries, Inc. to remove burrs, ream and bevel the cut end of thin wall

conduit or Greenfield in one operation. It is said to work equally well on all sizes from ½ in. up. The Hi Ream-Rite, as the tool is called, is constructed with a plastic handle and two tool-steel blades, one longer than the other. One blade is inserted inside the conduit, the other stays outside. The difference in blade length is for the purpose of handling all E.M.T. diameters from ½ in. up without binding. In ½ in. and ¾ sizes the longer blade goes inside; in 1 in. and larger sizes the shorter blade goes inside the E.M.T. In use, the Ream-Rite is turned once around to the right and returned left to the starting point. Ream-Rite is 6 in. long and weighs 2½ oz. The Ream-Rite is said to be usable for either a square or angular cutoff. It is also claimed that the tool speeds wiring by eliminating cut insulation and improving connections to boxes or couplings. For further details, please mention PEE No. 105 in your request.

Big Producer—According to the Worcester Paper Box Co., Medford, Mass., its new Staude 1000 rotogravure press is capable of producing up to 500,000 paper boxes a day. A web-fed, 44 in. gravure press, the Staude 1000 unit prints up to six colors, die-cuts, strips and delivers folding cartons at the rate of 840 boxes per min. It is equipped with a Staude Turn-Over Roll Stand with a 3700 lb. capacity, a Staude Butt Splicer and a die cutter-creaser. After the paper roll has passed through the feeder section, it enters the first of six cylinders or color stations where the first color goes down and register marks are made. From that point on, electronic controls operate the press. At the delivery end of the 150 ft. long machine, register is checked by a control panel equipped with numerous push buttons and flashing lights. Manual control is used to start the press and to make adjustments while it is running. Operators can make adjustments on any cylinder while the press is running in the event that finished pieces coming off the delivery unit indicate that an adjustment is necessary. A Staude Turn-Over Roll Stand is used to keep the giant press supplied with paper board. The double stand holds a pair of 3,700 lb. rolls so that it may be re-stocked while the press is running from the other roll. Behind the roll stand is a Staude Butt Splicer unit which allows a new roll to be spliced to the old roll in less than two seconds. A 30 ft. loop of paperboard dropping into a pit behind the splicer, allows the roll to be stopped momentarily without stopping the press.



*4 people = 40,000 plus WRAPPED and LABELED MAGAZINES PER DAY on Model E Wrapping Machine

How does your operation compare to this?

CREW

1. Removes magazines from skid and places them in magazine hopper
2. Town separations and stacking for tying machine operator
3. Tying machine operator
4. Inserts bag tags, removes loaded bags and hangs empty bags on the rack

Write for details

Magnacraft MFG. CO.

3138 WEST CHICAGO AVENUE • CHICAGO 23, ILLINOIS

Color-Tone Control

(Continued from Page 72)

er outlet might not be within easy reach.

Densitometer Functions

The Transmission Densitometer (Fig. 13) and the Reflection Densitometer are other instruments, made by the Photovolt Corporation, to measure, respectively, the density of negatives and the reflection density of illustrations produced by printing processes such as letterpress, offset and gravure. The Reflection Densitometer is also valuable for tone control in printing and for color analysis of small areas of color reproductions and patterns on wallpapers, labels, etc.

The Transmission Densitometers consist of an electronic photometer with a search head on a swinging arm which is lowered to a measuring aperture to permit a beam of light to pass upward through the negative or material to be measured into the aperture of the search head. The transmitted light is measured by the photometer.

The Reflection Densitometer is designed so that the reflection of a spot of light on a print, shielded very carefully from all other outside light sources, is focused into the search head of an electronic photometer which measures the amount of reflected light and indicates it on its dial.

These descriptions are of course extremely brief and the details of the design and description of the operation of the instruments will be willingly supplied by the manufacturer. However, they are all very simple to use and the information which they supply can be of great value to the platemaker.

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Instruments for the Printing Industry

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A full-fledged line-operated pH Meter of remarkable accuracy at the unprecedented price of **$115**

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Model 610 for accurate control of color and tone in the field of printing **$258**

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TRANSMISSION DENSITOMETER

For measuring densities of negatives and positives in plate making operations **$370**

Write for Bulletin #250

PHOTOVOLT CORPORATION

95 Madison Avenue • New York 16, N. Y.

The pH Meter

Another electronic measuring instrument which is available (also made by the Photovolt Corporation) and which has a rather wide use in the Graphic Arts industry is the pH Meter, Model 115 (Fig. 11). It is easy to operate, simple to maintain and low in first cost.

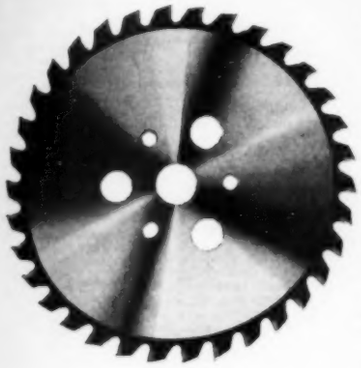
The importance of accurate pH control is becoming more and more recognized in the Graphic Arts, as in most other fields. However, in many instances, pH tests are still carried out with indicator papers or visual color comparison tests of limited accuracy, because electronic pH meters were, in the past, so expensive and also too complicated for practical use in production control work.

The pH Meter Model 115 (Fig. 14) is not much more expensive than better grade color comparison sets, and it is so simple and rugged in its internal construction that maintenance is reduced to a minimum. It operates from an a.c. power line and requires no previous training since the instructions are engraved on the panel.

(To Be Continued)

Time, Motion Study and Management Proceedings

Now available are the Proceedings of the 19th Annual Time and Motion Study and Management Clinic sponsored by the Industrial Management Society, Nov. 9, 10, 11, 1955 at the Hotel Sherman, Chicago. Included are 152 pages of charts, forms and illustrations. Complete transcripts of talks by top leaders of labor, management and government on various topics including time study, motion economy, methods, plant layout, production control, wage incentives, maintenance, and human relations. Published by the Industrial Management Society, 35 East Wacker Drive, Chicago 1. Price, $5.



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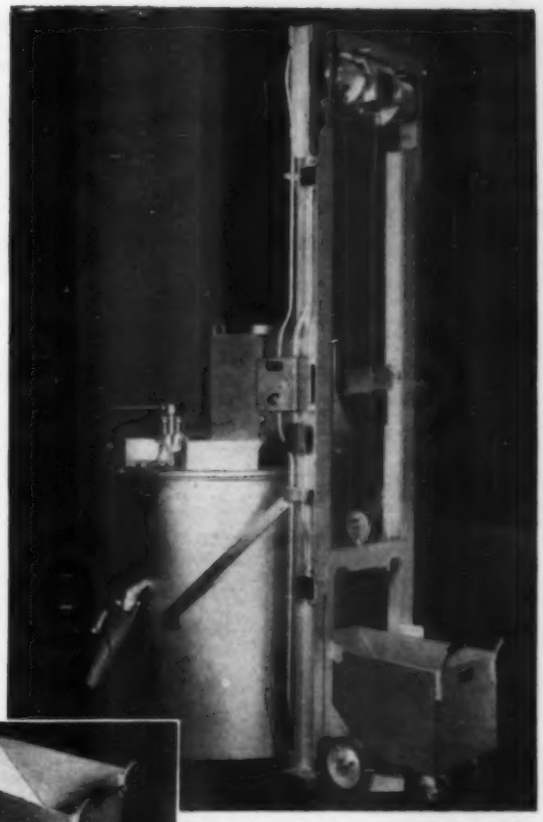

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Now you can remelt linotype scrap quickly and easily — with this new Kemp team! For one thing, you can wave goodbye to heavy hand loading! The Kemp Metal Loader is automatic . . . sturdily built along simple lines for long, trouble-free performance with a minimum of maintenance. Smooth operation of cart and hoist makes handling of scrap an easy job. Also, the Kemp Immersion Remelt Pot gives you quick heating with accurate temperature control, eliminates pot cracking and inefficient heat application. The unique Kemp construction results in less dross formation . . . does away with obnoxious dumping fumes.

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New book Color By Overprinting enables printers to increase color work.

COLOR by Overprinting

By Donald E. Cooke

A guidebook in the art and printing techniques employing transparent inks in multiple combinations enables printers to get their share of increased color printing. It is a definitive work about solid-color overprinting with transparent inks and is one of the most complete texts ever written about multicolor line reproduction and pre-separated artwork.

The method is implemented with standard printing plates on standard presses by letterpress, offset, gravure and silk screen with your present equipment.

Color By Overprinting consists of 268 pages, sizes 8½ in. by 11 in.; 44 pages of illustrations; 165 pages of color charts with keyed numbers of inks employed to secure colors from 11 basic colors and black. Substantially hard bound. The text is fully annotated for artists, printers, engravers, art directors and editors in the book, magazine, packaging and Graphic Arts fields generally.

Price, **$25.25** per copy postpaid.
(Please send remittance with order.)

Printing Equipment Engineer

1276 West Third St. Cleveland 13, Ohio

Literature

(Continued from Page 68)

further details, please mention PEE No. 123L in your request.

Bindery

GATHERING AND GLUING MACHINE

The Speed-Kleet gathering and gluing machine is illustrated and described in a four page, two color bulletin released by Didde-Glaser, Inc. The machine gathers and glues one-time carbon forms by a series of identical stations which operate in unison. The Speed-Kleet may also be used as a straight collator. Specifications are included in the bulletin. For a copy, please mention PEE No. 124L in your request.

COUNTER AND STACKER

A machine for catching, feeding, counting and stacking a predetermined number of books or magazines from the gathering, binding and covering operation from delivery to a continuous trimmer is illustrated and described in a four page bulletin. The machine was invented by W. H. Taylor, plant engineer of the Popular Mechanics Co. A one page reprint of an article about the device is included. For a copy, please mention PEE No. 125L in your request.

Miscellaneous

HELICAL GEAR DRIVES

A new line of in-line helical gear drives is described in a 16 page booklet, Book No. 2651, recently published by the manufacturer, Link-Belt Company. Load classes for 250 applications, overhung load ratings and dimension tables, instructions for proper selection and cutaway views of both double and triple reduction drives are given. Link-Belt backstops and couplings are also illustrated and described. For a copy, please mention PEE No. 126L in your request.

RELEASING AGENT

A four page, illustrated, two color folder is descriptive of Release-Cote, a releasing agent which is said to prevent coatings such as glues, adhesives, inks, plastics from adhering to the walls of pots, ink fountains, journals or any exposed surface. The folder, published by Potdevin Machine Co., is called *Like Water Off a Duck's Back*. A full explanation of what Release-Cote can do is included. For a copy, please mention PEE No. 127L in your request.

IMPRESSIONS ON MEAD PAPER

The latest issue of the quarterly magazine, *Better Impressions*, published by Mead Papers,

Inc., includes an article titled *It Pays To Pamper Your Printer* and another titled *What! $4.90 for Deleting a Comma?* These articles and others are beautifully laid out and excellently executed, of course on Mead papers. For a copy, please mention PEE No. 128L in your request.

VIBRATION MOUNTINGS

A line of Rubber-in Shear vibration mountings is described in a four page folder released by T. R. Finn & Co., Inc. The vibration mountings, known as Finnflex Rubber-in-Shear Vibration Mountings, are high-deflection units used to isolate vibration, noise and shock caused by light and medium weight machinery. The catalog is descriptive of construction features of the various types of vibration mountings, with load capacities ranging from 40 lbs. to 10,000 lbs. Also described are non-walking base-plates that are said to eliminate creep or walking of machinery. For a copy, please mention PEE No. 129L in your request.

RATCHET DRIVE LUBRICATOR

A two page technical reference sheet descriptive of an automatic ratchet-driven lubricator, designated type NV, is now offered by Bijur Lubricating Corp. The lubricator is designed for servicing small machines and mechanisms where installation space is limited and where an oscillating drive is more readily available than rotary motion. The reference sheet is descriptive in detail of the key features, and specifications are given. The lubricator is pictured and cut-away diagram illustrates the operation of the machine. For a copy, please mention PEE No. 130L in your request.

SHEET CLEANER

The Doyle Sheet Cleaner which automatically removes dirt, dust, lint, loose paper particles and excess dry spray from the surface of paper is illustrated and described in a four page bulletin released by The J. E. Doyle Co. Advantages, operation and installation details are contained in the bulletin. For a copy of the bulletin, please mention PEE No. 131L in your request.

GAS AND ELECTRIC HEATERS

A four page bulletin *Acme Gas and Electric Heaters for Miehle Presses*, and a two page leaflet descriptive of Acme fountain divider, Acme Perforator and Scorer and Acme Vibrating Distributors have been released by The Acme Printing Appliance Co. Described in the bulletin are gas heaters and electric heaters for elimination of static, sheet conditioning, ink drying and offset prevention. In the bulletin are shown illustrations of the various models along with descriptive material. For a copy, please mention PEE No. 133L in your request.

MATERIALS HANDLING

Helpful clues to better materials handling methods are included in the latest issue of

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The Bonkrud Squirt Guard fully protects the operator from the danger of squirts. As the pot moves forward for casting, the guard swings down, as illustrated, completely covering the line of matrices. At all other times, the guard is out of the way, without interference to machine operation or maintenance.

This guard actually makes it easier to clean up after a squirt, because the metal striking the hood cools rapidly, and will not adhere to matrices or machine parts.

The Bonkrud Squirt Guard is quickly installed, and never requires adjustment. Its operation is noiseless and automatic. Fits all 30 pica Linotypes and Intertypes. Write for full details today or order by STAR Part No. M-53. Specify model and serial number of machine, type of pot — gas or electric — and whether Monomelt equipped.

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Beveridge Dry Mats

New Products Division

The BEVERIDGE PAPER CO.

Indianapolis 4, Indiana

Handling Materials Illustrated, a well illustrated house organ published by Towmotor Corporation. Articles featured in the 8 page publication include a description of an all weather stockpiling operation involving specially equipped fork lift trucks and a series of materials handling case histories. For a copy, please mention PEE No. 134L in your request.

ENAMEL PAPER

A four page brochure printed by letterpress on Polar Superfine Enamel, basis 25 in. by 38 in., 100 lb., has been published by Oxford Paper Co. The brochure is descriptive of the Polar Superfine Enamel suited for advertising pieces, annual reports and other jobs. Reproductions of engravings are included which show the printing qualities of the enamel paper. For copy of the colorful brochure, please mention PEE No. 135L in your request.

DILTS EQUIPMENT

In issue No. 338 of *The Messenger* products of Dilts Division of The Black-Clawson Co. are featured. Among equipment described are six models of slitter-rewinders; unwinders and backstands, including flying paster and other types of continuous splicers; winders, including Surfastart automatic roll starter Pacemaker offset printing presses; flexographic printing presses; three models of embossers; in-line cutter and layboy; track and dolly system, and Dilts lightweight expanding chuck. *The Messenger* is 24 pages in length and is printed in two colors. For a copy, please mention PEE No. 136L in your request.

GEARMOTORS

An eight page, two color bulletin, *Reduce Speed,* has been published by Reliance Electric & Engineering Co., descriptive of the new line of Reliance Gearmotors with NEMA motors and redesigned gearheads. In the first bulletin section are presented examples of the selection of types, mountings, enclosures, and ratios available. Another section is illustrative of maintenance through motor and gear replacement with an open view of a typical gear assembly. Included in the selection section listing are types of gear motors, types of service, output speeds, horsepowers, electrical characteristics, etc. For a copy, please mention PEE No. 132L in your request.

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American Publishers Supply, Inc.

New York State Conference

(Continued from Page 44)

year members are George Herring, composing room foreman, Troy Record Newspapers; and Herbert Banker, composing room foreman, Poughkeepsie (N.Y.) *New Yorker;* and four-year members are Earl S. Nolta, machinist, Schenectady (N.Y.) *Gazette;* and Harry Shaughnessy, pressroom superintendent, Williams Press.

Among the speakers at the conference were Harold O. Mohr, Mohr Lino-Saw Co., who described the use of and means of getting the best service from the Mohr Lino-Saw and the Mohr Measure Control.

Paul Chisholm, New York Agency manager, Mergenthaler Linotype Co., was another of the conference speakers. Title of Chisholm's talk was *Prospecting for Space,* and it covered the main points to consider when striving for the most efficient equipment arrangement. Objectives of such "prospecting" are directness of workflow; minimum distances between successive operations; convenient location of storage facilities and auxiliary equipment; and strategic location for supervisory and service personnel.

Making Your Newspaper Attractive was the subject of a talk by Howard N. King, typographic counsellor, Intertype Corporation. "The purpose of doing a better typographical job on your newspaper is to make it easier on the reader. And if you have a better product, you will be in an improved competitive position. It is the only way for you to secure a greater share of the national advertising dollar," he said. King had many suggestions and pointers on how newspapers can be made more attractive and easier to read.

William Spaulding, engraving room superintendent, *Knickerbocker News,* Albany, N. Y., was another speaker of the conference. His subject was *Photoengraving Problems.* "Copy is an important factor in the production of a good engraving," he said, "Much of the criticism directed to the engraver for the appearance of poor reproductions is due, mainly, to poor copy. In most instances, the engraver can and does improve on poor copy. The operator blocks out the photo during his exposures, the printer does the same while making his print and the etcher re-etches his plate. This, as you can readily see, takes time, and in the rush necessary at times, these procedures cannot be followed.

"The maintenance of proper temperature is a problem. Chemicals do not function properly in extreme hot or cold temperatures. Neither does the film nor the nitric acid. Climatic conditions present another problem. Humid temperature affects printing and stripping," Spaulding continued.

Intertype Annual Report

During the year 1955, the billings and earnings of Intertype Corporation and its domestic subsidiary, Fairview Foundry Inc., increased over the previous year. Billings topped all previous marks. The consolidated billings were $12,805,301 as compared with $11,497,283 for 1954, an increase of 11.4%. Net earnings after taxes were $1,208,243 for 1955, as compared with $994,433 for 1954, an increase of 21.5%. Gross revenues from the Fotosetter photographic typsetting machine, including rentals of machines and sales of Fotosetter matrices, parts and supplies, were $815,430, an increase of 53.7% over the amount of $530,462 in 1954.

Mid-Atlantic Conference

(Continued from Page 42)

pher usually doubles as a photolab technician as contrasted with the full-time technician in the larger organizations.

Teamwork is essential. Those papers doing the best r.o.p color at lowest cost are those which employ the teamwork principle.

R.o.p. color advertising reproduction demands expert handling. It is usually desirable to use a gradually increasing program of editorial color as a training ground for those conconcerned with color reproduction.

Dr. Curtis discussed copy preparation and stressed simplicity and advantages of reflected light copy, balanced and color corrected, as delivered to the engraving department.

Also discussed was the use of the Color Analyst for detection of flaws in balance, gradation, color density and undercolor in the earliest stages of copy preparation, as well as to correct all such flaws *before* making screen negatives.

In color correction, reproduction errors arising from paper and ink cause black to print brown. Masking and printing in a definite ratio of about 100 blue, 80 red, and 70 yellow assist in producing a scale of grays. This correction should be made at the photographic positive stage.

The finest highlight dot that can be held in etching is desirable.

Dr. Curtis suggested development of a powdering and etching procedure to hold original negative dot formation as closely as possible.

The speaker demonstrated possibility of eliminating all staging and re-etching if copy is properly prepared together with use of adopted powdering and etching procedure mentioned above.

In the final bite, control of the key or overall density of the job is in the hands of the engraver. The final highlight etch of a few seconds determines this value.

In stereotyping, the speaker said hot molded mats are imperative if the best standards are to be followed. Mat makeready is helpful.

To assist the pressman in setting color, it is mandatory that he have realistic color proofs on newsprint (conservatively inked to avoid setting a fictitious standard), or to save the time and cost of pulling many full color proofs, the pressroom should be equipped with an 11 in. by 14 in. Color Analyst. Use of the Analyst is to be preferred, since the pressman can instantly determine whether more or less ink of a given color is needed.

Report on Scan-A-Graver

Quinton E. Beauge executive editor, and John E. Person, jr., business manager, Williamsport (Pa.) *Sun-Gazette*, spoke on their experience with the Scan-A-Sizer. The *Sun-Gazette* will cut either a 65 or 85 line screen. Other Scan-A-Sizers will cut 85-120 line cuts or 100-120 line cuts. Their machine will produce engravings up to 13 in. by 16. Its enlargement and reduction ratio is about 4½ to 1.

Advertisers are sending in clippings from magazines, catalogs and other sources for use in their advertisements. The *Sun-Gazette* takes this copy and by using the Scan-A-Sizer reduces or enlarges it as requested. Two engravings of each picture are made because the *Sun-Gazette* prints direct from the plastic plate. Fairchild has told *Sun-Gazette* executives the company is working on a special tandem unit so that both Scan-A-Plates can be cut at the same time. For copy received over news wires, it is no longer necessary to crop the pictures or copy them to proper column width. We put them on the Sizer, set the dial for the width desired and turn on the machine. A 1 col. cut on the Sizer can be made in about 7½ min. A 3 col. by 35 picas deep cut can be made in 23 min. on the Sizer. *Sun-Gazette* operators found it required 2 min. to place a picture on the machine and set the dials to start the machine.

Sun-Gazette operators considered the following advantages of the Sizer: (1) It eliminates the copying of photographs; (2) Machine cuts fast; (3) No detail in picture is lost when reducing or enlarging as compared with copying; (4) Great selection of screens, and (5) Tonal gradation is better because there is an adjustment in the machine to improve this quality. They cited one disadvantage: It is practically impossible for the operator to make minor repairs.

Speakers at the Mailroom session

Operation of the Offset Press

By Theodore F. Makarius

This 254 page book has been written especially for the man who must makeready and operate the offset printing press.

In this 254 page book are 25 chapters and 57 pages of Case Histories for overcoming specific troubles. Some of the chapters deal with: Setting the Pressure, Inking Rollers, Dampeners, Ink Fountains, Mounting Plate and Blanket, Split Fountain Printing, Drying Problems, Register Troubles and others. Included is a six page Ink Problem Reference Chart.

Color Charts are included. One of these demonstrates difference in cleanliness of color when mixing two inks which complement each other. Another color chart has been prepared to show the result of mixing different percentages of components.

Size 5¼ in. by 7⅞ in., 254 pages, 19 illustrations. Bound in gold stamped semi-flexible cover.

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Discuss Composing Room Maintenance Systems

Interesting discussions regarding composing room machine maintenance were presented by Carl A. Lamping, machinist, Scranton (Pa.) *Times*, and Hans Rosberg, production planning department, Mergenthaler Linotype Co. Lamping described the 30 Linotypes and auxiliary equipment in the *Times* composing room and how they are kept in continuous operating condition through application of a preventive maintenance program. Primary items are adequate lubrication and periodic cleaning.

One of Lamping's comments was that distributors are oiled once a month with the exception of the mixer machines. The mixer distributors are oiled every two weeks. He uses Monotype keyboard oil which can be purchased from Lanston Monotype Machine Co. It is also used for key board cam yokes, pi stackers and keyboard roll bearings.

In plants having over 20 machines, Lamping said a spare keyboard is a great asset. The spare can be installed in a few minutes. Thus production is maintained while the removed keyboard is given a thorough cleaning and lubricating. He described a special dolly or truck which was built in his plant for removal and installation of keyboards. The low side of the dolly top is used to receive the keyboard while the higher side of the top is used to slide the new keyboard into position from dolly to machine bracket. In this way one machine removes and replaces a keyboard without lifting and danger of dropping a keyboard.

Machine's Productive Life

Hans Rosberg asserted that the well run composing room is associated with a good housekeeping system. The productive life of a machine is only as long as the maintenance care it receives. "The most wasteful kind of maintenance," said Rosberg, "is the 'get-it-going-again' type. Machinists dash around getting the machine back into production after stops. Their work never seems to be under control so there's always urgent need for type. The other kind of wasteful maintenance is somewhat better. This is the 'wait-til-it-breaks—then fix it' group. These boys may coax a few hundred more hours out of a part they know is through. Usually, however, the defective part lets go just when the machine is needed most."

The speaker advocated installation of a maintenance system and carrying an inventory of necessary replacement parts, as the only remedy for unsatisfactory machine performance.

He discussed at some length maintaining, cleaning and lubricating machines according to frequency of use. He illustrated this idea by saying that in some cases a news machine casts 500 lines in a shift. It may run only 1¾ hr. or 2 hr. and is then shut down. Around 500 lines may be produced on an ad machine in an entire shift. In one case the motor, drive keyboard roll shafts, assembler and distributor rotating parts are in motion all the time the motor is running and have run four times as long as the other. On the other hand, cams, elevators and casting functions cycled precisely the same amount. . . . These two machines need different maintenance routines and different periods for lubrication.

It can be seen that a maintenance schedule suitable for a given plant will not be effective in another plant. The reason is that every machine carries a different load and thus requires different timing for lubrication and inspection

Rosberg said: "I do not advocate stockpiling of a tremendous inventory of parts that will be out of proportion to the use and number of machines . . . but it is wise to have the critical parts in stock in case of breakdowns. This is good insurance and the cost is a lot less than if repairs must be made on an emergency basis. . . . A machine part is ready for retirement when it is at the end of its possible adjustment range . . . When you can bring adjustment of a part to the close side, so that wear will remain within allowable limits, it's time to change the part."

During the Composing Room session, a panel discussion was held. This was entitled: *How to Cut Costs, Better Plant Layout and Dispatch Room*. Mechanical Supt. Peter Rudegeair of the Lebanon (Pa.) *Daily News*, was chairman. Panel members were: Chas. T. Shoemaker, mechanical superintendent, *Bergen Evening Record*, Hackensack, N. J.; Ora Bonser, composing foreman, Stroudsburg. (Pa.) *Record*, and Earl L. Deal, Norfolk (Va.) Newspapers, Inc.

For the *Care—Not Repair* section, the following panel members were on the platform: Frank B. Foster, research and engineering division, Intertype Corporation; Donald B. Patterson, production manager, Baltimore (Md.) Sunpapers; Carl A. Lamping, machinist, Scranton (Pa.) *Times*, and Hans Rosberg, production planning department, Mergenthaler Linotype Co.

A. T. Vander Linde, printing machinery manager, Hammond Machinery Builders, Inc., spoke on *Level Plates Shaved to Correct Height*.

Teletypesetter Operation was the subject of an address by Vernon R. James, composing room superintendent, West Virginia Newspaper Pub. Co., Morgantown, W. Va.

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BOOKS

Printing Is Business

J. W. Rockefeller, Jr., and Associates, Graphic Arts consulting engineers, have taken a commercial rather than an esthetic or philosophical view of the printing industry in a new book, *Printing Is a Business.* Printing is looked upon as a business —a profit-making business. And they maintain: "We have not found this phase of the business sordid, but, on the other hand, stimulating, challenging to the imagination, and affording considerable satisfaction."

The authors consider how the printing business has and is changing; the importance of men in the printing business; current thought on printing plant construction, including the marvelous adaptability of some older buildings to modern homes for printing plants; new equipment; overhead; and the future of the industry and particularly of printing buyers. With reference to personnel, it is asserted: "The strength of a printing company, large or small, resides, in the long run, in the human beings who make up its organization. A poor crew can render ineffective the finest methods and most up-to-date equipment; a good one can make poor equipment look good and hard jobs seem easy." In regard to technological progress, the observation is made that: "It is our firm belief, however, that in spite of the retarding factors which have been recognized and described elsewhere in this volume, new developments in both equipment and methods are, even at this writing, exerting strong influence on our industry, and that the printer who ignores them will find himself in a precarious competitive position." In referring to specialty printers, the authors state: "Specialty printers are having equipment built to order to their own designs . . . these machines represent . . . a stepping up of 300% or 400% [in production] with a corresponding reduction in cost . . . if the commercial job printer appears to be forced into either specialization or extinction, then the specialty printer and office equipment manufacturer are as certainly destined for one of the biggest and most important jobs that has ever benefited American industry."

The book, *Printing Is a Business,* is available from J. W. Rockefeller,

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Jr., and Associates, 56 Main St., Millburn, N. J., at $2.50 per copy in a paper cover and at $4.50 per copy in Fabrikoid.

Future of Letterpress

"Letterpress, the basic printing method of the past and present, also will be the dominant process of the future if all branches of the letterpress industry cooperate and engage in research." That is the conclusion of I. D. Robbins, New York (N. Y.) printing consultant, in a 24 page booklet titled, *The Present and Future of the Printing Processes.* Robbins made his study on behalf of the International Assoc. of Electrotypers & Stereotypers, Inc. Purpose of the study was to find answers to these four questions: What printing process will be favored? What quality of printing will buyers demand? What kind of equipment will be built and purchased? and How will the printing grades of paper be used?

Part of Robbins' findings include this statement: "Letterpress, the quality method of printing also can be the economical method of printing. The next 10 years should see the rotary principle in general use for all sizes of letterpress." At another point in the booklet, Robbins claims the "No Carbon Required" paper, which will reduce the market for such products as carbon interleaf and spot forms, may also make it possible for almost any printer to produce forms which have hitherto been in the province of the specialist. "Significantly," says Robbins, "the producers of NCR paper recommend that this paper be printed by the letterpress process." Among the steps letterpress printers can take to improve their competitive positions, according to Robbins: (1) Establish a cooperative relationship to make the platemaking branches an integral part of the letterpress operation. (2) Educate printing customers on how to prepare their material for letterpress production. (3) Adopt better makeready procedures. (4) Take greater advantage of lower letterpress paper costs. (5) Engage in letterpress research.

Copies of the booklet may be obtained from the International Assoc. of Electrotypers & Stereotypers, Inc., 701 Leader Building, Cleveland 14.

Offset Color Stripping

Color Stripping for Offset Lithography, written by Bernard R. Halpren and published by the Lithographic Technical Foundation, Inc., is a well-illustrated, 176-page book designed to guide the stripper into the color reproduction field. A further aim of the text is to acquaint the stripper with a resume of the essential theory, equipment and materials used, as well as the associated processes. A final aim is to provide the advanced stripper with a basis for standardized procedures that represent a compilation of the best current practices adapted to each class of work.

So the entire practice of color stripping, from simple line or block-color work to process color reproduction is related. In the text also are detailed associated operations occasionally assigned to the color stripper. Fifty-four illustrations are used to help explain the processes. A glossary of terms and a bibliography are added features of the manual.

Each chapter begins with a general discussion of the material to be covered. Chapters are arranged for study in both supervised and self-taught circumstances. The working procedure is expanded progressively to follow the acquisition of skills or the course of normal training. Chapters are numbered consecutively and in certain sections sub-divisions are lettered to provide for easy reference from one part of the text to another.

Further information and price of *Color Stripping for Offset Lithography* may be obtained from Lithographic Technical Foundation, Inc., 131 East 39th St., New York 16, N. Y.

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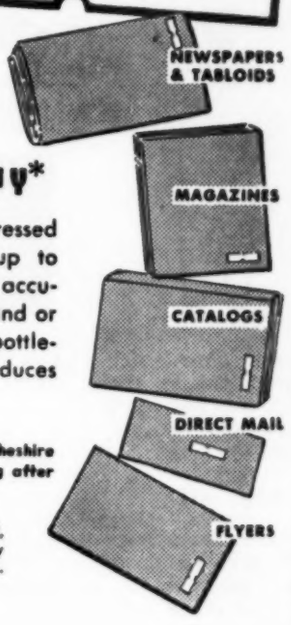

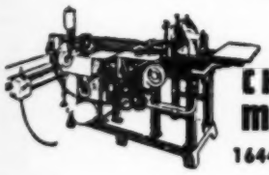

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Kenro Camera

(Continued from Page 38)

ments to a minimum by minimizing shadow lines caused by paste up edges. It is equipped with two lighting contacts which permit red setup lights to be used, or other lamps, such as UV Mercury lamps, to be employed.

The Kenro Vertical 18 may be placed flush against any wall, and takes up less space than two four drawer letter filing cabinets. It can be gallery operated or used in a darkroom. It is portable and may be passed through standard doors and into elevators. Weight is 240 lbs.

Among the more interesting uses for the Kenro Vertical 18 is in photoengraving plants where it is used to make three color process plates; in larger lithographic plants to speed production and relieve the work load on big camera equipment; in newspapers for use in conjunction with making magnesium plates as well as regular engravings; and in letter shops and captive plants to make negatives for use with offset printing equipment.

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NEWSPAPER EQUIPMENT AND SUPPLIES

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American Publishers Supply, Inc.

Shims

(Continued from Page 40)

aside or lose a metal shim as one made of paper.

Occasionally, you will run into the machinist who works in reverse to the above by finding the lowest mold pocket and then proceeding to file out the remaining pockets until he has obtained some sort of uniformity. This method may be all right, but if he should happen to get the pocket too low then the slug from this mold will gouge into the left hand trimming knife during ejection, which isn't good. Then he must either shim or build up the pocket.

One other possible cause of mold misalignment is a badly worn or warped disk. You may ask: How accurate are these disks when new? Well, we do not experience nearly as much trouble with the new disks and molds as we do later on when considerable wear has occurred.

Mold disks and molds take a terrific beating on a linecasting machine, whether there is a cooling system or not. In cases where blowers are not used and the molds and mold disks are subjected to very high heat conditions on one side of the disk or the other, a warped condition may show up.

Altered Molds

Maybe the thought comes to you that it would be easier to alter the

Production and Mechanical Executives are invited to submit to the editor informally in a letter devices which have helped production in their plants.

For the Stereotyper . . .

The New MIDWEST NYLON Covered Creeper

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mold rather than the mold disk. There are several molds in our plant that were altered. I don't know who did the altering or when, but I believe they were molds that had been sent out for reconditioning. These particular molds were spot welded and then dressed down to give new mold dimensions which, under certain conditions worked out all right.

Rather than do any altering of a mold itself, I would go for the plug or adjustable screw system. In fact, I believe, the manufacturers could help the machinist no end by having adjustable screws in the mold seat, or perhaps an adjustable strip.

Reconditioned Disks

In the case of a warped disk, when the conditions become extreme and it is impossible to reach a satisfactory remedy, you can have the disk reconditioned.

In the case of shimming behind the mold body to obtain 0.918 in. slug height trim, brass shim stock is the best material to use for temporary correction of a damaged mold. (One that has been scraped off at the casting side.)

Shimming for Type High

Of course, as I said before, there are other methods that can be used. Shimming for type high is no different, as far as system is concerned, than shimming for side trim. If a machinist has plenty of time (which none of us seem to have) he can work out some beautiful ideas and do a first class job by inserting plugs to align molds and replacing damaged molds. But I venture to say that in the larger plants where papers are published both morning and evening, operation is 24 hours a day, seven days a week, you will find that most of the shimming jobs are roughly approximated.

I am a great believer in precision but it is not always possible to work accurately because of the time element.

To obtain uniform type high trim for each mold on the disk it is often a difficult problem, especially if the machine happens to be an old one or the machine has had bad care.

Damaged Molds

If the mold disk happens to be warped or someone has adjusted the back knife too close and gouged the molds, setting the back knife to trim even on two or three molds is going to take some time—shims or no shims. Then suppose one or two of the molds has been polished down and scraped so much because of metal build up on the back of the mold until the sharp edges at the back of the mold have become rounded. Regardless of how you set the back knife you are still going to get a "dirty" trim. By this I mean, the slug will be edged with metal fins across the bottom of the slug. I cannot recommend any remedy for this except to trade the old mold or molds in for new ones. Then be very careful in the future when you set the back knife or clean the mold with metal polish.

That Back Knife

First, of all, the back knife should touch the back of the mold very lightly in order to obtain a 0.918 in. trim of the slug. If the molds seem in good shape and the backs seem nice and flat and yet certain molds are difficult to permit trimming the slugs to the desired height, then we will have to start checking.

A good place to start checking would be with the back knife itself. Always use a sharp knife. The mold disk guides should be set loose enough to allow free movement of the disk, but close enough to hold the disk from drawing away from the knife during the trim. Next, remove each mold from the disk and clean thoroughly, making sure the caps and bodies line up properly. Sometimes the mold

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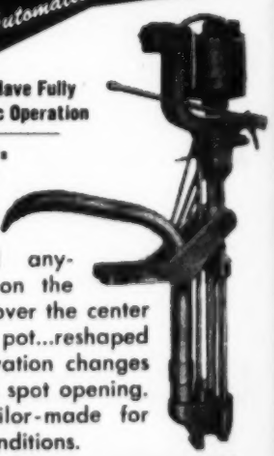

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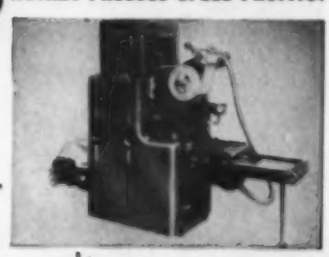
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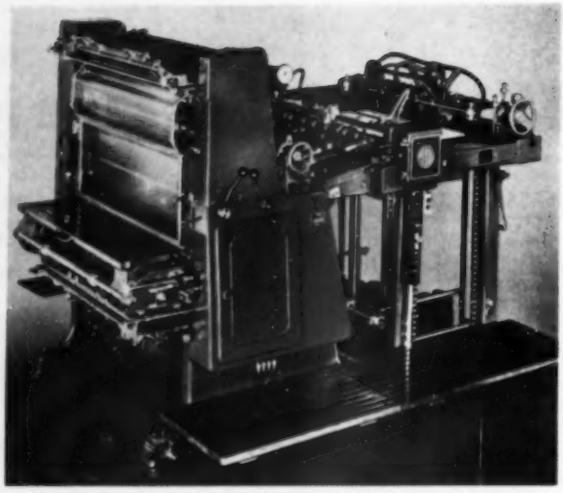


High Speed Offset Press—American Type Founders recently announced the ATF-Mann N-135 offset press in the 22 in. by 34 in. size range. With claimed printing speeds up to 7000 i.p.h., this press is equipped with floating impression (no bearer to bearer contact) and sustained register. Min. sheet size on the N-135 is 11 in. by 15 in.; max. size 23 in. by 36 in. It is said stock from onion skin to 0.028 in. card can be handled. Max. printing area is 22½ in. by 35½ in. Cylinders are mounted in phosphor bronze alloy bearings, and the swing-arm mechanism on the feeder is cam-controlled in both directions. An adjustable suction drag roller is used to control the sheet at the delivery to permit jogging. With the HTB Stream Feeder, a continuous stream of paper is delivered to the four front guides and the pull-type side guides. Should a sheet arrive at the head stops too soon, an early sheet detector trips a micro-switch which automatically stops the press. Other features include: Roller adjustments with hex. head screws; positive, gear-driven vibrator roller drive; copper plated steel drums and riders; three-to-one water motion, and Plexiglass safety guards, covering the cylinders and ink rollers at the delivery end. Either or both guards can be equipped with Micro-switch controls which prevent running the press at speeds other than inch or crawl when the guards are lifted. For further details, please mention PEE No. 85 in your request.

posts on the Linotype become bent and cause the cap to be out of line with the mold body. Be sure the Linotype front plate screws are good and tight as the molds are replaced. If there is any front-to-back wear in the mold disk stud this also will have to be remedied as explained earlier in this article.

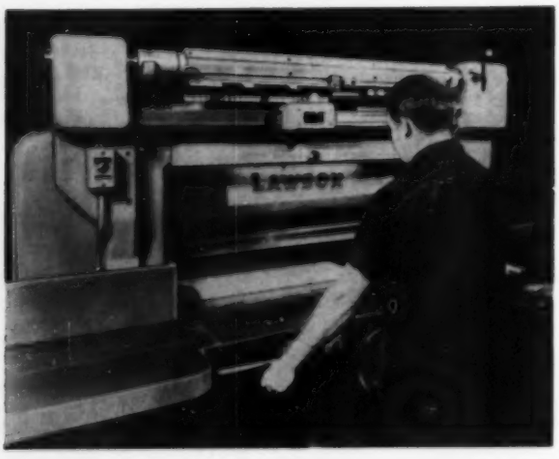
Other Causes of Trouble

Sometimes if the pot lockup is not very good it will cause you trouble in setting the back knife, usually when the pot is locking up tighter on one side than the other.

Another cause for trouble is the mouthpiece. Some mouthpieces become uneven and pitted and when this happens you will notice a poor pattern on the bottom of the slugs. A good policy is to clean up this mouthpiece before you start a back knife job.

Usually, if the disk is not warped too badly you can compensate for the warp by shimming. Maybe more on one side than the other, it being more or less a test and trial proposition. But it is best to replace the disk.

Of course, we are assuming that the vise is square with the molds on the machine. There is no need of going through a lot of work unless it is square because when you are finished it still would cause one end of the slug to trim higher than the other. Be sure both vise locking studs are tight. Sometimes one or the other works loose.



Lawson Spacer Cutter—The 39 in. automatic spacer cutter incorporating the Lawson Series V-65 Electronic Spacer has been announced by E. P. Lawson Co. The Electronic Spacer permits cutting large quantities of smaller size stock. The operator places the lift of paper in the machine, makes the cut, and the work comes forward automatically to the next cutting position. The spacer is said to be accurate to 0.002 in. The hexagonal spacer bar may be set to carry six individual series of spacer setups. When the last cut has been made, the back gauge is automatically returned to the first cutting position. For further details, please mention PEE No. 76 in your request.

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